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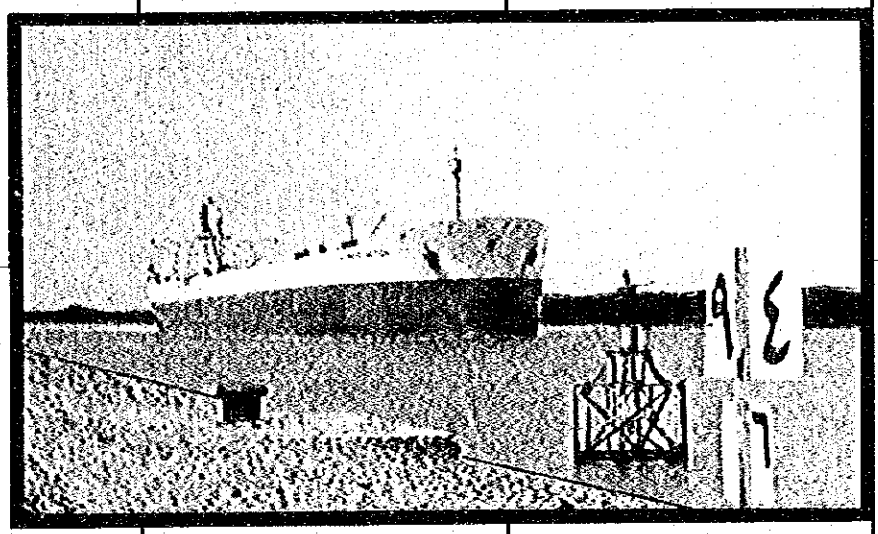
ARAB REPUBLIC OF EGYPT

REPORT ON THE TECHNICAL COOPERATION PROGRAM TO THE SUEZ CANAL AUTHORITY

(THE THIRD YEAR)

RECORD OF THE TECHNICAL COOPERATION PROGRAM



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MARCH 1981

JARAN INTERNATIONAL COOPERATION AGENCY

SUEZ

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ARAB REPUBLIC OF EGYPT

REPORT ON THE TECHNICAL COOPERATION PROGRAM TO THE SUEZ CANAL AUTHORITY

(THE THIRD YEAR)

RECORD OF THE TECHNICAL COOPERATION PROGRAM

PREFACE

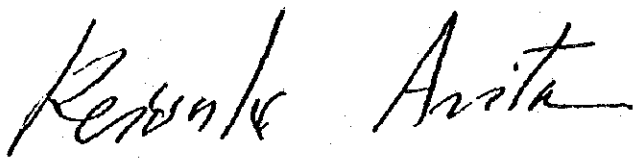
In response to a request of the Government of the Arab Republic of Egypt, the Japanese Government decided in 1978 to extend 3-year technical cooperation to the "Economic Unit" in the Planning and Research Department, the Suez Canal Authority and entrusted its implementation to the Japan International Cooperation Agency (JICA).

In the 3-year period of cooperation, JICA sent several teams to the Suez Canal Authority, including a team headed by Mr. Y. Sato which was dispatched from Aug. 30 to Dec. 29, 1980 and from Feb. 17 to Mar. 18, 1981 to conduct necessary survey and train the Economic Unit personnel. In addition, JICA trained seven members of the Economic Unit in Japan for a period of two months. The Sato team has prepared the present report, which deals with the standard techniques of job execution and information handling necessary for economic research and systems analysis.

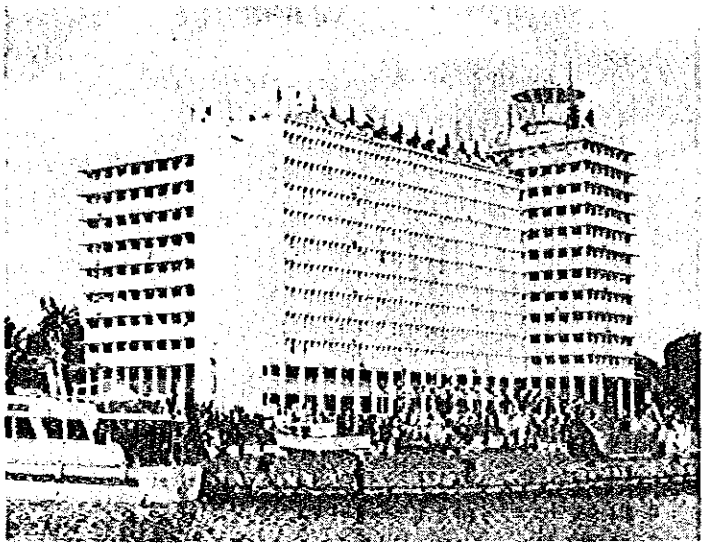
I hope this report will serve for the development of the Suez Canal and for the promotion of friendly relations between our two countries.

I wish to express my deep appreciation to the officials concerned of the Government of Egypt and the Suez Canal Authority for their close cooperation extended to the team.

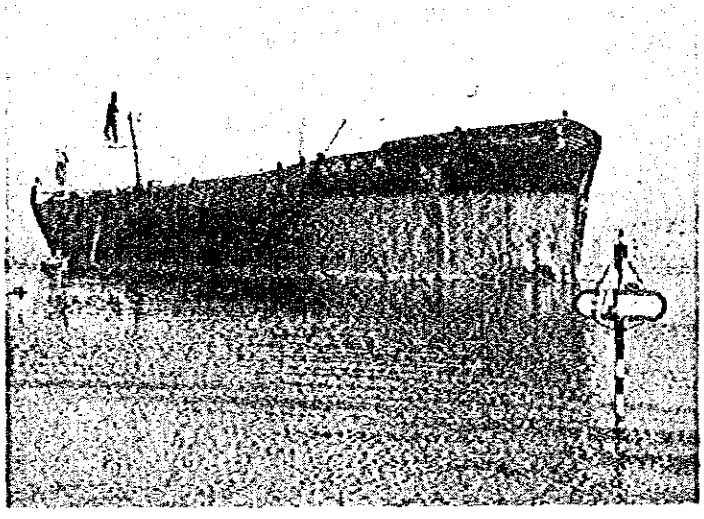
March, 1981



Keisuke Arita
President
Japan International Cooperation Agency



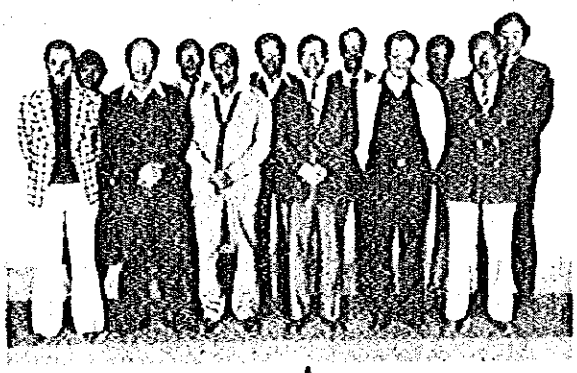
Headquarters of the S.C.A.



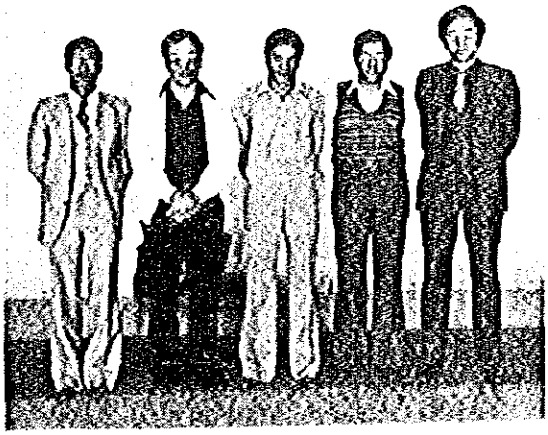
A mommoth tanker 290,081 DWT
transiting the Canal southbound

Dr. A. Ammar
Director of Planning & Research Dept.

Eng. A. El-Dissawy
Deputy Director



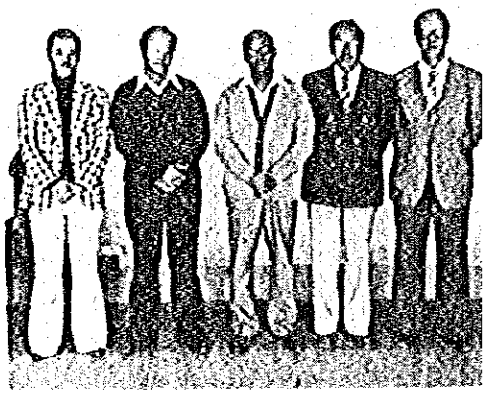
Dr. F. Abou-Taleb
Manager of Economic Unit



System Analysis Group

Mr. S. Matei
Mr. R. Negm, leader
Mr. A. Khaled
Mr. A. El-Manakhly
Mr. M. Rizk

(left to right)



Economic Research Group

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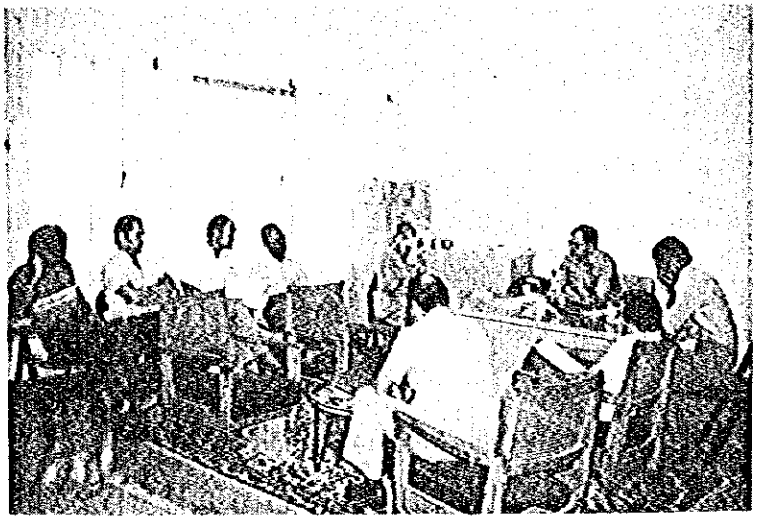
Mr. A. Haggag, leader
Dr. H. Beshir
Mr. R. Hegazi
Mr. M. El-Maghraby



Regular meeting of the Economic Unit

Manager & leaders meeting

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INTRODUCTION

1.1 Background

The Suez Canal has been playing a very important role as an essential route for maritime transportation of the world ever since it was opened for passage in 1869.

Yet, as one may naturally expect, its role and functions will undergo considerable alterations in line with the development of the world economy and the changes in the international trade structure.

Particularly noteworthy phenomena in this respect are an increase in the volume of crude oil trade in the petroleum era since 1960, and, along with this an increase of tankers, which are the means of transportation for oil, the emergence of bulk-carriers as a trend accompanying the movements of resources, the appearance and increase of various types of specialized vessels for exclusive transport of specific types of cargoes under the influence of the progress attained in the shipping technology, and the diversification of the means of maritime transportation, and so forth.

For the Suez Canal, it is necessary to adapt itself promptly and properly with the contemporary trends of maritime transportation through purposive improvement of the operations and facilities of the Canal, in order that it may be made possible to secure the safe and speedy passage of the various vessels mentioned above.

In the meantime, the closure of the Suez Canal due to the Middle East War in 1967 continuing until 1975, large-sized ships have been built and put in commission, with a view to achieving a reduction of the costs of transportation by ship. In addition, the pipeline which connects the Red Sea with the Mediterranean has been constructed between Suez and Alexandria. Since the outbreak of the Oil Crisis, the world has been required to attain the conservation of the resources and the saving of energy.

Thus, it is an important task requiring its accomplishment by the Suez Canal Authority that it should cope effectively with the external changes and perform sound and pertinent administration over the operations of the Canal. In order to enable the Suez Canal Authority to fulfill this requirement, it will be essential to establish planning functions founded on a large-range viewpoint in the system of the organizational functions of the SCA.

These organizational functions should be capable of performing such tasks of great importance as the collection and compilation of data necessary for the management of the Canal: i.e. researches serving the purpose of determining a proper tariff for tolls for the Canal, and forecasts of the transit volume in the Canal, as well as inquiries and appraisals of plans for the expansion of the Canal based on the forecasts of vessels in transit through the Canal and the development of such Canal-expansion plans.

In recognition and positive response to requirements like these, the Suez Canal Authority has made a resolute decision to establish the Economic Unit within the organizational framework of its Planning and Research Department and to have it render contributions towards attainment of the above-mentioned objectives.

With regard to the establishment of the organization and the training of the staffs, Suez Canal Authority requested a technical cooperation to the Japanese Government (Feb. 1977).

In response to this request, the Japanese Government has dispatched a contact mission (July 1977) and the preliminary survey team (March 1978) to discuss the details of cooperation with the Suez Canal Authority. The principal policy of the cooperation was decided by the interministerial meeting of the Japanese government held on March 26, 1978.

1.2 Scope of Cooperation Program

It was decided that the technical cooperation would continue for three years and its scope would be as follows: however, the details would be decided by the discussions between the two parties to be held every fiscal year.

1. The organization and the functions of the Economic Unit.
2. System analysis techniques essential to the staff of the Unit.
3. Training of the staff.
4. Training in Egypt by a dispatch of experts.

1.3 *Objectives and Contents of Technical Cooperation*

(1) The first year (1978)

The objectives

As a technical cooperation program for the Economic Financial and Traffic Planning Unit (hereinafter referred to as the Unit) which was newly established in the SCA to assist its management to set up the basic policy of the operation and development of the Suez Canal, the survey was carried out for the purpose of reviewing, proposing or implementing the following so that the Unit can fulfill the function to be expected by the SCA.

1) Survey on the organization and functions of the Unit
   1. The function to be made by the Unit was proposed at the Suez Canal Authority.
   2. The structure of the Unit, number of staffs, job descriptions of the Unit were proposed.
   3. The requirements for the key staff members of the Unit were reviewed and proposed.
   4. The trianing program, to upgrade the general staff members of the Unit who carry out currently the key staff member's job to the level of Item 3 above were proposed.
   5. The gradual organization expansion program to perform the expected operation of the Unit was proposed.

2) Studies on the technical transfer of various systems including the information system required in performing the functions of the Unit. Items studied during the first year were as follows:
   a) Collection and analysis of the existing models and reports.
   b) Basic systems of the transportation cost analysis and the forecast of the traffic volume.
   c) Basic information system

3) Training the Unit staffs
   Six members of the Suez Canal Authority were trained for 13 weeks in Japan in 1978. The objective of this training was to give the staffs sufficient capability to fulfill the tasks studied in paragraph 1), which correspond to the first step of training proposed in 1) 4.

(2) The second year (1979)

Objectives

Continuing the preceding year, the following cooperation program was carried out so as to allow the Unit to fulfill the function expected by the Suez Canal Authority.

1) Studies concerning the techniques of the analysis and forecasting necessary in carrying out the management and reasonable planning of the Canal.
   1. Continuing the first year's work, the present status analysis and short-term forecasting concerning the essential subjects of the Planning and Research Department of the Suez Canal Authority were carried out by using higher level analysis techniques.
   2. The long-term forecasting model on the traffic volume proposed in the first year was developed into the higher level model.
   3. The method of collection and management of the necessary information and data to carry out those analyses and forecasting was proposed.

2) Training in Egypt

   The training in Egypt for the staff of the Unit was carried out as follows:
   1. Six members visited Japan in the first year were trained separately in accordance with the specialized course, based on the first year study report (System Report I).
   2. To the above-mentioned trainees, the on-the-job-training was given to produce the research output.
   3. The basic training, similar to that of the first year, was given to the newly assigned four staff members by using the training textbook prepared in the first year.
   4. The follow-up training was given to the members trained in Japan in the second year.

3) Training in Japan

   Seven staff members of the Unit were trained in Japan in accordance with the specialized course, corresponding to their jobs in the Unit.

(3) The third year (1980)

The principal objectives of the first and the second year programs were to transfer the necessary techniques and knowledge and improve the capability of each staff members of the Unit.

The objects for the third year was to transfer necessary techniques to the Unit to enable it to start its operation in SCA in 1981.

In conformity with the objectives, the cooperation program was planned as follows:

1) Training in Egypt
   1. Training for the manager of the Unit.

      For the newly assigned manager, the outline of the program was explained and the training was given on the essential subjects necessary for the manager such as the administration and planning procedures.
   2. Training for the members of the Unit.

i) On-the-job training on the actual operation was given to two groups of the Unit, the Economic Research Group and the Systems Analysis Group.

ii) The on-the-job training for the preparation of the research output (Bulletins, Short Analysis Reports, Annual Reports) was given.

iii) The method of collecting, analyzing, evaluating and storing the information and data which are essential to the Unit to carry out its jobs was trained.

2) Training in Japan

a) Seven members of the Unit were trained in Japan. This year's training, except the training for manager, was carried out in the form of self training according to the speciality of each member.

3) Others

To help the operation of the Unit after 1981, the following manuals were prepared and explained to the SCA.

a) The manual for the job planning, job administration and supervision of the Unit for the management and the research job manual for the research staff members of the Unit.

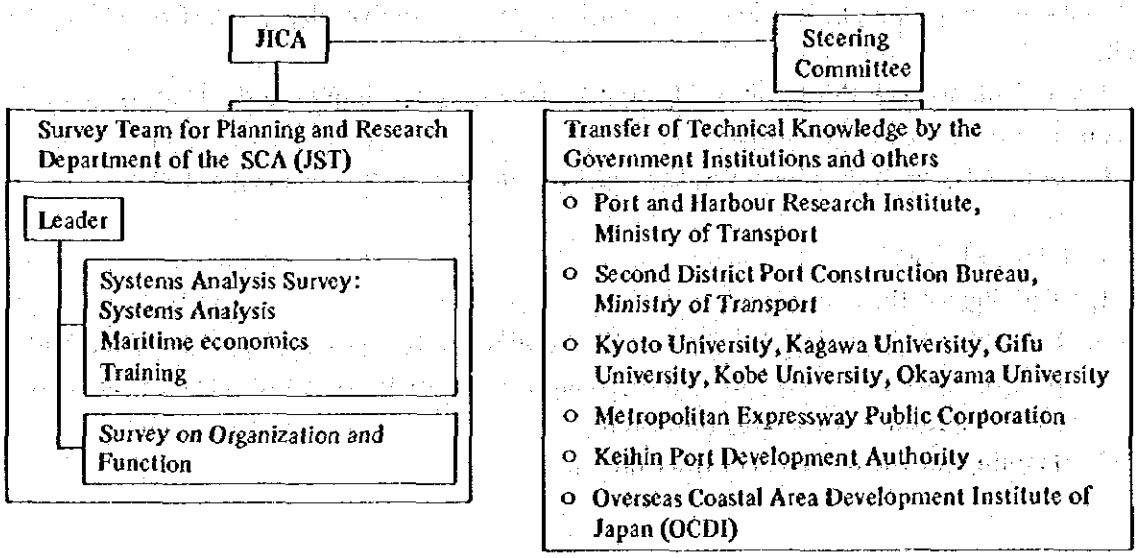
b) The manual concerning collection, analyses, evaluation, and storing the information and data necessary for the execution of the jobs of the Unit.

1.4 Organization for the Implementation

The Japanese Government, based on the agreement with the Arab Republic of Egypt, conducted the technical cooperation program and the details were carried out by Japan International Cooperation Agency (JICA).

Japan International Cooperation Agency organized a Steering Committee chaired by Professor Yoshimi Nagao of Kyoto University and the Japanese Survey Team (JST) consisting of experts chosen from Mitsubishi Research Institute and Japan Maritime Research Institute and carried out the survey and study both in Egypt and Japan.

Besides, the university, the Ministry of Transport and other organizations concerned, as shown in the following, accepted the trainees to transfer techniques.



1.5 Chronological Record of the Cooperation Program

During the three years technical cooperation, the following missions were dispatched or received

Japanese Contact Mission	3 times
Japanese SurveyTeam (consultants)	8 times
Experts	1 time
Receiving trainees in Japan	3 times

Records thereof are as follows:

	Japanese side	SCA
1978 Apr.		
May		
Jun.		
Jul.	Survey in Egypt I by JST (July 14 – Aug. 11) o Explanation of Inception Report	
Aug.	o Interview with the candidates for the members of the E.U. o Recommendation of candidates for Training *in Japan.*	Receiving the preliminary *training*
Sept.	o Preliminary training. Receiving the trainees in Japan (Sept. 27 – Dec. 26)	Receiving the Training in Japan
Oct.		Dr. Ammar's visit to Japan
Nov.	Survey in Egypt II by JST (Nov. 18 – Nov. 28) Interim report and discussion concerning the organization and function study Interviewing the candidates of E.U. staffs.	
Dec.		
1979 Jan.		
Feb.	*Survey in Egypt III by JST* (Feb. 11 – Feb. 23) o Explanation of the draft final report on "Organization and Functions of the Economic Unit"	Receiving supplementary training.
Mar.	Government contact mission (March 4 – March 17)	

I	Japanese side	SCA
1979 Apr.		
May		
Jun.		
Jul.	Survey in Egypt I by JST (July 3 – August 14) (Explanation of the final report on system analysis. Supplementary lessons for the assignment given in February 1979.)	Receiving the training in Egypt
Aug.	Guidance and consultation of making out the research output. Recommendation of the trainees to be dispatched to Japan.	Receiving the training in Egypt by the experts.
Sept.	Steering Committee's activities in Egypt (July 31 – August 12) Dispatching the experts (July 31 – August 9)	
Oct.	Receiving the trainees in Japan. (October 24 – December 20)	Receiving the training in Japan (seven trainees).
Nov.	Survey in Egypt II by JST (Nov. 8 – Nov. 24) Guidance and consultation to E.U. staffs remaining in Egypt	Receiving the training in Egypt (three trainees)
Dec.		
1980 Jan		
Feb.	Survey in Egypt III by JST (Feb. 14 – Feb. 27)	Receiving supplementary training
Mar.	Contact mission (Feb. 21 – Mar. 1)	

	Japanese side	SCA	
1980 Apr.			
May			
Jun.			
Jul.			
Aug.			
Sept.	Survey in Egypt I by JST (Sept. 11 – Dec. 28) Training for the manager. Training for the group leaders and the staff members.		
Oct.	Recommendations of the candidates for Training in Japan.		
Nov.	Dispatching the members of the Steering Committee. (Nov. 17 – Nov. 25)	Mr. El-Dissawy's visit to Japan	
Dec.			
1981 Jan.	Receiving the trainees in Japan (Jan. 13 – Mar. 10)	Receiving the training in Japan (7 trainees) (Jan. 13 – Mar. 10)	
Feb.	Survey in Egypt II by JST (Feb. 17 – Mar. 18)	Receiving the training in Egypt (4 trainees) (Feb. 19 – Mar. 13)	
Mar.	Contact mission (Mar. 14 – Mar. 18)	Receiving final guidance from JST (all the members) (Mar. 14 – Mar. 16)	

2. OUTLINE OF COOPERATION PROGRAM

This chapter describes the outline of the technical cooperation program in each year.

2.1 The First Year Technical Cooperation Program (1978)

The first year's technical cooperation program consisted mainly of the following

1. Survey in Egypt I
2. Survey in Egypt II
3. Training in Japan
4. Explanation of the draft of the report on organization and functions of the Unit

Survey in Egypt I was conducted during the period from July 14 to August 11, 1978, by the Japanese Survey Team (JST) consisting of 10 consultants under the supervision of three members of the Steering Committee of the Japanese Government. The purposes were (1) to commence the activity and explain the inception report, (2) to collect information and data necessary for surveying the organization and functions and interview the persons concerned (3) to collect information and data necessary for surveying the systems analysis and interview the persons concerned, (4) to interview staff members, and candidates for the staff of the Unit and test their capabilities, (5) to recommend the candidates to be trained in Japan and (6) to give the preliminary training for staffs to be dispatched to Japan.

With respect to the inception report, the plans relative to organization, functions, systems analysis and training for the first year and for the three years were separately explained to Dr. Ammar, Director of the Planning and Research Department, then Dr. Ammar expressed his opinions. With respect to the study of the organization and functions of the Unit, information was obtained from the director and deputy director of the Planning and Research Department, directors of other department of the SCA as well as from the Statistical Section and the Planning Section of the Planning and Research Department. With respect to the study of systems analysis, information was obtained from the director and deputy director of the Planning and Research Department, the deputy director of the Transit Department and others in the SCA. The JST obtained from these persons the information and data necessary for proposing the techniques of the systems analysis and information control for the staff members of the Unit.

Staffs and candidates to be assigned to the Unit had already been nominated when the Survey Team arrived. Since knowing their capabilities was most important in organizing the Unit, interviews and tests were repeated throughout the study period. Thus, six candicates were finally selected and recommended to SCA for training in Japan. The staff members thus selected did not necessarily satisfy all the requirements which the JST had proposed, but it was thought that they would be competent if the training program was modified.

Survey in Egypt II was conducted by the JST consisting of two consultants during the period from November 18 to November 28, 1978. The purpose of the Survey was (1) to explain an interim survey report on the organization and functions of the Unit and to adjust opinions between the JST and the SCA and (2) to test candidates to be assigned to the Unit.

With respect to the interim report, the framework of the organization and function of the Unit were explained; the important themes of the SCA were discussed, and a mutual agreement was reached in connection with the procedure to develop the Economic Unit and its goal. The

JST interviewed additional six candidates to judge their capabilities.

The selected candidates were trained in Japan during a period of 13 weeks from September 27 to December 25, 1978. The training in Japan was intended to give the trainees a basic knowledge of maritime transportation, systems analysis and information control necessary for the performance of jobs of the Unit. The accepted trainees were Mr. Hagagg, Mr. Negm and four other Unit members.

Training began with the orientation at the offices of the Japan International Cooperation Agency and the Ministry of Transport. Lectures were given and exercises were conducted at Mitsubishi Research Institute, Japan Maritime Research Institute, Kyoto University, Kagawa University, Okayama University and the Port and Harbor Research Institute of the Ministry of Transport. The lectures included the introductions to shipping, canal traffic forecasting and computer systems, managerial economics, mathematics and statistics. Opinions were collected from the lecturers with respect to the results of the training given by them in order to take them into consideration in the training planning and cooperation program for the following year.

Four consultants were dispatched during the period from February 11 to February 23, 1979 for the following purposes: 1) to explain the draft of the report on the organization and functions of the Unit, 2) to explain the results of the training in Japan, 3) to carry out the examination for the candidates for the new staff members of the Unit and 4) to follow up the survey of the systems analysis.

At the meeting on the draft of the report on the organization and functions, the organization, functions and personnel plans of the Unit on the basis of the 1st year survey results to be proposed by Japan and the role of the technical cooperation for establishing the Economic Unit were explained. The long term objective of the Economic Unit is to directly participate in the planning, decision-making, etc. of the top management of the SCA as a staff of the survey and planning.

When the Planning and Research Department is strengthened, it will consist of the Planning Section, Economic Research Section, Systems Analysis Section and Information Section.

However, it is considered to be advisable to start activities for the time being with only the Economic Research Group and Systems Analysis Group, which consist of six and eight members respectively under the supervision of the Unit manager.

The evaluation results of the training in Japan based on the comments by the lecturers and discussions with the persons concerned were reported to the Director of the Planning and Research Department. It was thought that the Unit members acquired the basic knowledge fairly well, and that the application capability must be enhanced in the future.

With respect to following-up the training, supplementary lessons were given based mainly on the assignments given during the training in Japan. They included the analysis of canal traffic data and the method of canal traffic forecasting to facilitate their research jobs in the future. As a preparatory work for the following year, the members were instructed to study some subjects related to the future functions of the Unit.

2.2 The Second Year Technical Cooperation Program (1979)

A cooperation program for the second year was drawn up on the basis of the results of the cooperation in the first year. The program was adopted by an interministerial meeting. A governmental contact mission was dispatched to Egypt in March 1979 to discuss the details of the cooperation program with the Suez Canal Authority for the second year. The cooperation included the following.

1. Training in Egypt I and II by consultants
2. Dispatch of experts to Egypt
3. Training in Japan
4. Systems analysis study
5. Furnishing the basic information relating to the second stage canal expansion project

Items 1, 2 and 3 above related to the training of the Unit members in Egypt and Japan. The main target of the cooperation of the second year was to cultivate the application ability of the Unit members on the basic knowledge of systems analysis, maritime transport economics, etc. acquired during the first year. Item 4 above was intended to develop the techniques of the analysis and information management necessary for the research jobs of the Economic Unit. Item 5 above was to supply the materials necessary for determining the timing to start the second stage expansion project being planned by the Suez Canal Authority. This cooperation item has been succeeded to the cooperation program of the feasibility study on the second stage expansion project.

Training in Egypt I

This training of the staff members was conducted by the survey team consisting of four consultants during the period from July 3 to August 13, 1979. The on-the-job training was given mainly on the practical subjects such as the analysis of the shipping and economics relating to the Suez Canal, forecasting the tanker traffic through the Canal and reviewing the feasibility study. During this period, the same training on the basic knowledge of shipping and systems analysis as that given in Japan in the first year was given to the four staff members newly assigned to the Unit in the second year.

Dispatching Experts

Two university professors were dispatched to train the Unit members during the period from July 31 to September 13, 1979. Lectures and exercises were given in connection with the programs concerning shipping, economics, way of thinking and principle of systems analysis etc. which could not be acquired through the on-the-job training.

Training in Egypt II

Training was conducted in Egypt by two consultants during the period from November 5 to November 26, 1979. During this period, seven of the Unit members stayed in Japan to receive the training and three remaining Unit members were in Egypt. It was considered that it was desirable

to give the remaining members in Egypt the same training which was given in Japan.

The on-the-job training on shipping and forecasting of tanker and non-tanker traffic through the Canal was carried out during this period. In addition to this, instruction was given so that a computer program of forecasting the Canal traffic can be operated in the Computer Center of the Suez Canal Authority.

Training in Japan

The training was conducted in Japan during the period from October 25 to December 20, 1979. The trainees included three Unit members who were trained in the first year (1978's trainees) and four other members newly assigned to the Unit in 1979 (1979's trainees). The objective of the training was to give both 1978's and 1979's trainees the capability to apply the basic knowledges and techniques which had been acquired until August to more specialized fields.

The organizations which conducted those trainings were the Ministry of Transport (Port and Harbor Research Institute), universities (Kyoto, Kagawa and Gifu) and consultants (Mitsubishi Research Institute and Japan Maritime Research Institute). During this period, lectures were given at OCDI on the progress report on the judgement of the starting timing of the second stage Canal expansion project of the SCA prepared by the Japanese government. As in the first year, the results of the training were summarized by the evaluation of the comments of the lecturers and discussions between persons concerned.

Explanation of the Report on Systems Analysis (Draft)

The survey team consisting of four consultants was dispatched to Egypt during the period from February 14 to February 27, 1980. Objectives of this survey were to explain the report on the systems analysis, report the results of the training in Japan, and to discuss the training program for the following year and assist the staffs' activities.

The systems analysis report contained the analyzing technique and data necessary for performing research jobs in the Economic Unit. The major contents of the report for this year are the actual canal traffic analysis, analysis of the external environments (such as economy), method of forecasting tanker and non-tanker-traffic through the Canal (middle level for the former) and the information and data necessary for these analyses. The results of the Training in Japan was reported to SCA for the outline, attainment of the aim, future problems, etc. The SCA expressed the opinions on the requirements for the next year training. It was judged that the initial objective for acquiring the basic knowledge and application techniques to practical problems were attained but the further improvement was necessary. For the training program for the following year it was considered that the most important was the training so that the Economic Unit functions as an organization.

2.3 The Third Year Technical Cooperation Program (1980)

Based on the results of the first and second year technical coopefation, the third year cooperation program was taken into deliberation and decided on by the government body. In response to that decision, the Government's contact mission visited Egypt from Feb. 21 to

March 1, 1980 to discuss with the Suez Canal Authority as to how to proceed with the technical cooperation and its program contents. As a result of this the two sides reached an agreement on the following make-up of the cooperation.

(1) Training in Egypt I

(2) Training in Japan II

(3) Training in Egypt II

(4) Offer of manuals

Of these cooperation items, (1), (2) and (3) were carried out both in Egypt and Japan with the aim of giving finishing touches to the education of the Unit members. In particular, because this year falls on the final year of the cooperation program, the goal was set at preparing the organizational structure with the manager as its central force for carrying out operations on the premise that the Unit becomes independent and functions as a part of SCA organization from April 1981. Item (4) required Japan to make available various kinds of manuals necessary for the independent operation of the Economic Unit from April 1981, and to offer them to the Suez Canal Authority.

Training in Egypt I

For the Training in Egypt I, the survey team consisting of five consultants was sent to the SCA to take on the task of training the unit manager, group leader and other staff members from Sept. 11 to Dec. 28, 1980. In line with the aforementioned object, the manager was provided with practical training on job planning and job management. He was trained in particular on basic matters required for administering and operating the Unit using the systems designed for regular meetings, communication in written form, job setting, planning and process administration. In addition, he was given a summary of the technical cooperations of the past two years so that he could grasp each individual member's capacity for job execution.

As for the training of the group leader and other staff members, it was aimed towards improving their abilities to carry out jobs, and for this purpose, various kinds of actual jobs were offered for practice. In other words, they practiced doing jobs, such as preparing Ab/Ex, bulletins and analytical reports in groups under the direction of the manager and the group leader.

Furthermore, they were provided with training for the establishment of an information system to collect, classify and accumulate the data that the Unit requires and to refer to it as needed.

In parallel with training in Egypt I, the Government mission sent for administering the Training in Egypt from Nov. 17 to Nov. 29, 1980 was working with JST on the selection of trainees to be sent to Japan and discussing the contents of the training in Japan and the Training in Egypt II.

Training in Japan

Training in Japan was carried out for about eight weeks from Jan. 14 to March 10, 1981, and included one manager and six staff members. The purpose was to train in Japan the manager who was assigned to the Unit in its 3rd year, and to provide other staff members with the skills necessary for their future roles in the Unit. The training, starting with the orientation at the

Japan International Cooperation Agency and the Ministry of Transport, consisted of on-the-job training, lectures, seminars and discussions at numerous organizations, such as consultant agencies (Mitsubishi Research Institute, Japan Maritime Research Institute), Universities (Kyoto Univ., Kobe Univ., Kagawa Univ., Gifu Univ.,), Port and Harbor Research Institute of the Ministry of Transport, Overseas Coastal Area Development Institute and other public organizations.

Training in Egypt II

The Training in Egypt II was conducted by the survey team of three consultants for 30 days from Feb. 17 to March 18, 1981. Until March 10, however, training was given to four staff members, since seven other members were in Japan.

The purpose of this training was to explain how to use various kinds of manuals to the director and the deputy director of the Planning and Research Department, as well as all the Unit members. The manuals were provided to help the Unit manage on its own and function as a part of SCA organization from April 1981. Another purpose was to give four remaining staff members, like those sent to Japan, the necessary technical training in preparation for their future jobs.

In the final days (March 13 – 16) of this training, all the Unit members, including those sent to Japan, joined the training at the Suez Canal Authority and were given final guidance by the Japanese Survey Team.

The Government's contact mission visited SCA from March 14 to 16 to report the results of the three-year technical cooperation program.

3. DESIGN AND IMPLEMENTATION OF TRAINING PROGRAM

3.1 Objectives and Program of Three Year Technical Cooperation

3.1.1 Objectives of Technical Cooperation Program and Role of Training

The objectives of the technical cooperation program explained in Chapter 1 are summarized as follows:

(1) To help the Planning Research Department in establishing the base of the organization to prepare material necessary for the satisfactory operation of the Canal which was explained in Section 1.1.
(2) To give the capabilities necessary for the survey and analysis to the staffs assigned to the Economic Unit. Chapter 4 describes the first objectives. The design and implementation and the expected results of the second training program objectives which play an important role in achieving the first objectives are described in this chapter.

3.1.2 Training Program Design

Any training program must be planned on the basis of the following considerations;
1) objectives of the training,
2) who is to be trained and what kind of organizational support can be obtained,
3) what type of training policies and methods should be used,
4) what kinds of training courses must be offered, and
5) how long the training program should be carried out.

The training program was designed according to the following procedures in taking account of the above conditions. (Fig. 3-1)

Step 1: Identification of the SCA management's research and information needs for decision making and planning. This step was carried out through a field study of the Japanese Survey Team, conducted at the SCA in July – August 1978, in order to examine in detail the SCA management's needs for the establishment of the Economic Unit.

Step 2: Study of the organizational structure and functions of the Economic Unit. Based upon the findings derived from Step 1, the analysis on the following was made in Report on Organization and Function (1978), 1) what kind of functions, tasks and jobs must be performed by the Economic Unit, 2) how they should be divided between the Economic Research and Systems Analysis Groups, 3) what kinds of research responsibilities should be assumed by each group, 4) what kind of technical knowledge and skills must be acquired by the Unit's staff members, and 5) other related problems of the Economic Unit.

Step 3: According to the recommendations made in the preceding steps, the following considerations must be made; i.e., 1) how the organizational structure and functions of

the Economic Unit will become fully operational, viz., problems of organization building (O/B) and organizational development (O/D), and 2) what are the specific training needs that must be fulfilled in the training program.

Step 4: On the basis of the results of the preceding steps, a specific training program must be designed according to what kind of training curricula ought to be given during the technical cooperation period.

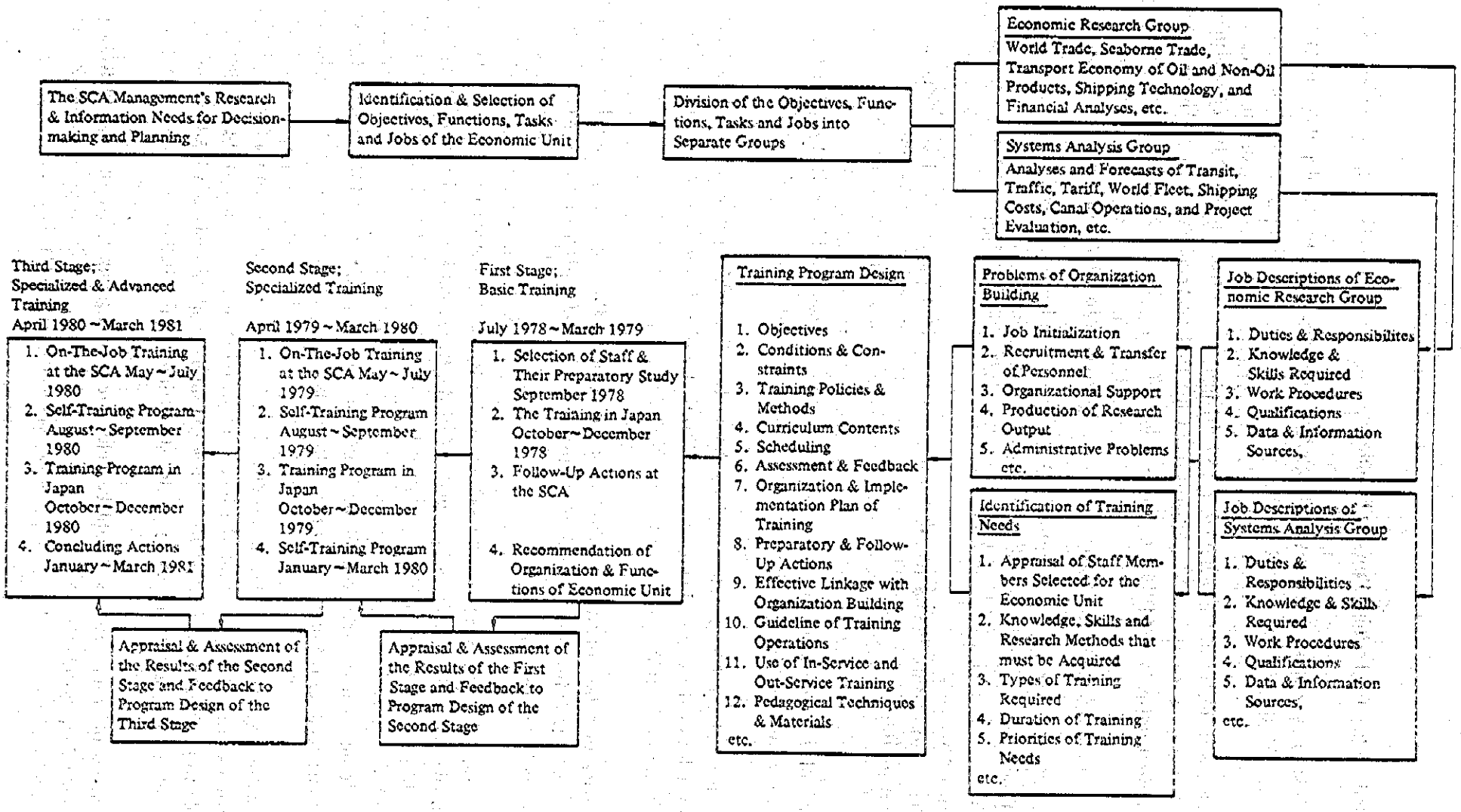


Fig. 3-1 Steps for the Technical Cooperation Program Design

3.1.3 Basic Policy for Training Program Planning

The basic policy shown below was decided in accordance with the results of the survey in Egypt carried out in July – August, 1978.

(1) The stepwise approach was adopted and the training started from the basic training curricula which was given to all of the participants in the first year and gradually shifted to more specialized and advanced fields of training at later stages.

(2) The "output-oriented" training method was used in order to achieve the purposes that;

a) Production of the research output and training should be effectively combined,
b) Routine research jobs should be created during the training period,
c) The learning process should be expedited through "doing actual research work" by themselves, and
d) The participants should be able to develop a sense of purpose, goal and achievement orientation.

(3) Pragmatic, interdisciplinary and problem-solving approaches should be adopted in view of the concrete and immediate needs of solving SCA management problems.

(4) Lecture and problem exercise sessions should be effectively combined so that theoretical knowledge of the required subjects were directly translated into the research and application problems of the SCA.

(5) Activity or action oriented method should be used in the way that practical skills can be quickly acquired by the participants so that they became capable of carrying out the entire process of a research project.

(6) The so-called "micro-approach" was used aiming to training the staff members who directly contributed to the "organization building.' of the Economic Unit, and the training program should be carried out in relative isolation from the intraorganizational problems of the SCA.

(7) The training curriculum should be made flexible and adjustable to meet the qualifications and specific needs or requirements of the participants.

(8) The training program in Japan was directly linked with the on-the-job training at the SCA, with a sufficient length of interim breathing period during which time the participants were able to perform double tasks; viz., review and supplementary study of what they had already learnt and preparations necessary for the succeeding training program.

(9) A series of group sessions should be held to establish group spirit or sense of team work among the participants.

3.1.4 Training Program Plan

The training curriculum which should be carried out in accordance with the basic policy was reviewed, the following program was decided; 1) those which must be commonly taken by all members of the Economic Unit, 2) special curricula designed for the specific requirements of the Economic Research Group, 3) quantitative methodology oriented curricula which have been designed to meet the Systems Analysis Group, and 4) research management curricula that have been specially designed for managers of the Economic Unit. The curriculum contents of these four training programs are briefly explained below.

(1) Basic curriculum

The basic training curriculum which should be commonly taught to all members of the Economic Unit was the starting point. This basic training program was established to fulfill the following:

1) A full understanding must be attained between the staff members with regard to the nature and types of the research jobs which must be undertaken by the Economic Unit;
2) The member must be made familiar with basic theories and methodologies that would be used to analyze internal and external policy problems of the SCA;
3) Basic knowledge and skills must be acquired by the staff members as to how the Economic Unit's research work must be carried out.

To meet these goals, the following curricula were planned to be offered to the SCA's trainees in the first year.

1) Basic knowledge of maritime transport problems and statistics
2) Elementary statistical data analysis methods
3) Theories and methodologies of maritime transport economy
4) Analysis and forecast methods of the SCA problems, e.g., Canal transit and project evaluation
5) Research methods and procedures

(2) Special curricula for the Economic Research Group

In order to assist the future members of the Economic Research Group to acquire knowledge and skills necessary for undertaking research work on the SCA's economic and financial problems, the following special training courses were covered in the training program as well as in the member's self-study at the SCA.

1) International economics and trade analysis
2) Maritime transport economics
3) Managerial economics
4) Managerial accounting
5) Introductory econometrics or mathematical economics and statistics

(3) Special curricula for Systems Analysis Group

The Systems Analysis Group is planned to assume the responsibility of undertaking quantitative analyses of the SCA's planning and decision making problems by means of a systems

analysis approach. Intensive training was given to this group's members on the following disciplines in addition to some of those listed in the preceding paragraph (2):

1) Mathematics and statistics
2) Systems analysis
3) Management science & operations research
4) Computer science
5) Forecasting methods
6) Cost/benefit analysis and other quantitative methods of project evaluation and problem-solving

(4) Special curricula for research organization management

Special curricula was given, though less intensively, to senior staff members of the Economic Unit so that the Economic Unit as a research organization would be effectively managed and research projects and programs could be efficiently planned and controlled.

1) Practical research methods of an organization
2) Management theory and practice of research organization
3) Introductory management science

3.1.5 Three Year Training Schedule

In the previous Chapters, a summary description was given on the objectives of the training program, basic policy to determine the training plan and the outline of the training program. The schedule for carrying out this program for three years is described below. The training program for three years consists basically of the following:

(1) Technical training program to be carried out in Japan three times, once every year.

(2) On-the-job training and other trainings to be carried out at the SCA for a necessary period in 1979 and 1980.

(3) Self-training program on the review and preparation to be carried out during the interval between TTP (Technical Training Program) and OJT (On-the-Job Training).

Schematic relationship between these training component activities are summarized in Fig. 3-2: Schematic Relations of Training Compoent Activities. As indicated in this figure, the technical cooperation program consisted of ten activity phases or steps, which are briefly explained below:

Step 1: Basic technical training in Japan which was carried out from October to December 1978.

Step 2: Follow-up study and actions on Step 1 and preparatory work for Step 3. This activity step consists of assignments to supplement the studies made in Step 1 and necessary

preparatory work required for Step 3.

Step 3: It was planned that training programs on specific problems would be given to the trainees and, at the same time, they would start producing research output with assistance of the Japanese consultants.

Step 4: It was planned that supplementary studies would be made by the trainees on Step 3 and assignments were given to prepare for the specialized training of Step 5.

Step 5: It was planned that specialized training programs would be designed by taking into account the specific training needs of staff members of the Economic Research and Systems Analysis Groups, new recruits and senior members of the Economic Unit.

Step 6: It was planned that a supplementary and follow-up study program would be provided on Step 5, because Step 5 was expected to be very specialized requiring continuous studies.

Step 7: It was planned that the quality of the research output would be upgraded to meet the information requirements of the SCA.

Step 8: It was planned that while supplementary work was being done on Step 7, a set of assignments were given to the Economic Unit's staff members to prepare themselves for a specialized and advanced training program in Japan during the next step.

Step 9: It was planned that this step would be the final training program which was conducted in Japan and it was specialized and advanced.

Step 10: It was planned that conclusive actions would be carried out to finalize the present technical cooperation program.

However, those of technical cooperation programs were decided annually on the deliberation between the Japanese Government and the Suez Canal Authority on evaluating the results of training achievements.

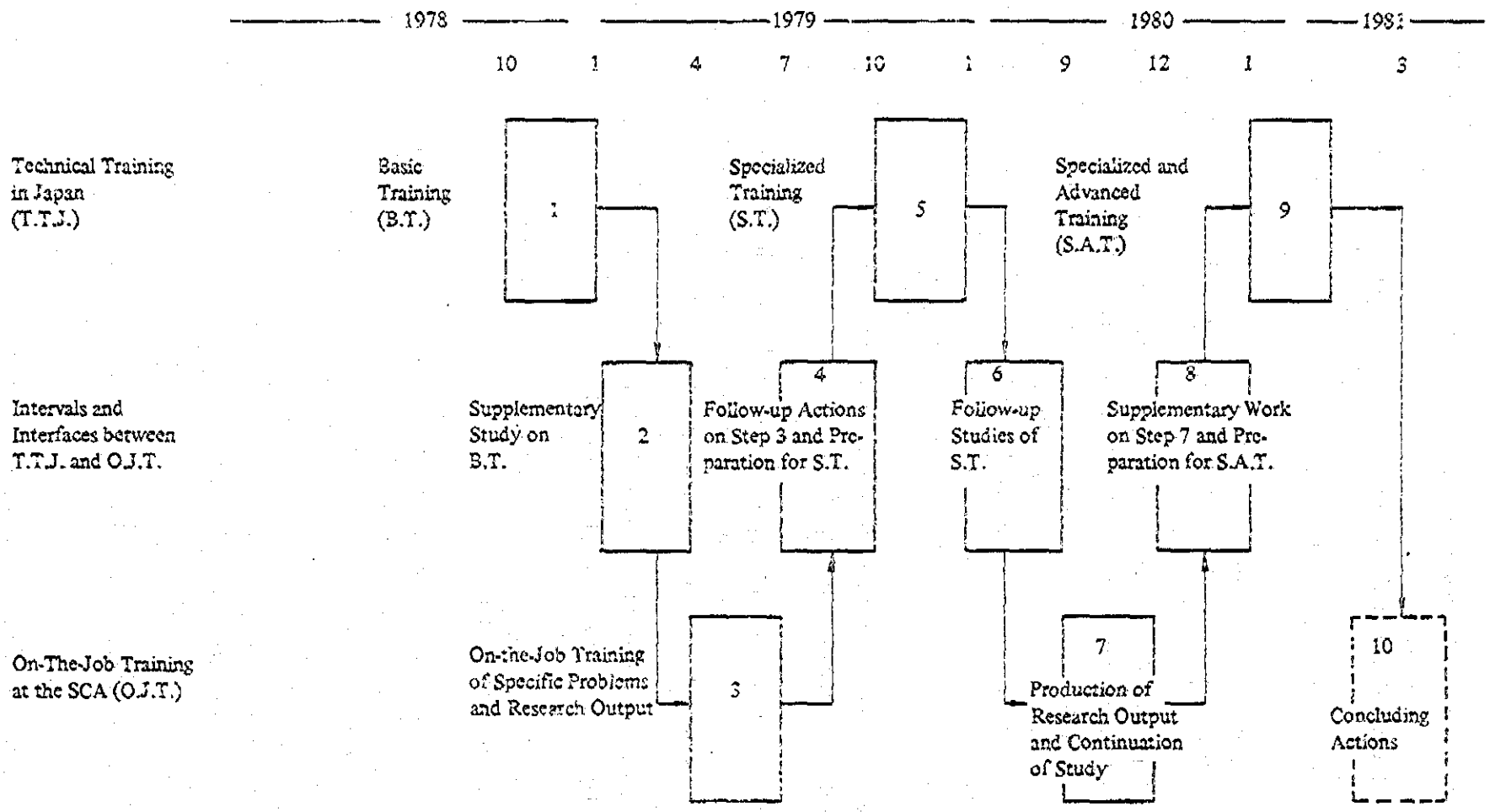


Fig. 3-2 Schematic Relations of Component Activities

3.2 The Training of the First Year

The following trainings were carried out in the first year.

1) The preliminary training in Egypt in August 1978, which was implemented as a part of the organization and the systems analysis survey.
2) Training in Japan extending for thirteen weeks period from August 1978 to December 1978.
3) The follow-up training carried out in February 1979.

The training in Japan giving the most important basic training during three years is explained below in detail.

3.2.1 Training in Japan

(1) Outline

The training (1978) was implemented in Japan for thirteen weeks from September 27 to December 25, 1978. Six trainees, listed below, were selected by SCA in August 1978 in accordance with the recommendation of Japanese government.

Mr. Negm	Mr. Rizk
Mr. Haggag	Mr. Marei
Mr. Hegazi	Miss Sobhy

(2) Objectives of Training

The objectives of training program in Japan were enumerated as follows:

1) Acquisition of, and familiarization with, the basic knowledge, technical skills and methodologies as were required for the research work of the Economic Unit.
2) Establishment of a common framework of the Economic Unit so that the SCA's participants would be able to have common goal, job requirements, and a sense of responsibility which are necessary to become a professional research group of the SCA.
3) Evaluation of the participants' capabilities, level of previous training, and aptitude as a researcher on the basis of which the level and contents of the training program for the succeeding stages were planned. This resulted in correctly evaluating the overall capability and potential possibility of the trainees. A temporary decision was made for the aptitude of trainees; for the Economic Research Group or the Systems Analysis Group.

(3) Training program

In conformity with afore-said objectives the following program was prepared and carried out.

1) Introductory course of maritime transportation problems in which all of the world seaborne trade and maritime transport problems relevant to the SCA were discussed and the basic concepts and terminologies were explained.
2) Statistical data analysis course in which elementary mathematics, statistics, and computer programming were explained.
3) A training course in which basic theories, concepts and methods of international

economy and seaborne trade, transit analysis and managerial economics were discussed.

4) A course in which basic methods of transit forecast and project evaluation were explained in their relation to the SCA's concrete problems.
5) A course in which research methods and procedures were explained.

Table 3-1 shows the target, contents, term and organization of the training.

Table 3-1 Training Curriculum Organization

		Objectives of the Program	Training Program Contents	Days	Training Institutes
	An Orientation Course; A General Outline of the Training Program	A briefing of the objectives & training program contents	Training course explanation, program organization, training institutes and information on life in Japan	5 days;	Mitsubishi Research Institute (MRI)
No. 1	An Introduction to Maritime Transportation Problems	Explanation of maritime transportation problems relevant to the SCA	Lecture & discussion sessions on liner and tramp shipping markets, a variety of shipping problems	10 days;	Japan Maritime Research Institute (JMRI)
No. 2	An Introduction to Basic Mathematics, Statistics & Computer Programming	An introductory explanation on statistical data, analysis techniques and computer programming	Lecture & problem exercises on algebra and elementary calculus, descriptive statistics, elementary programming	15 days;	Port and Harbour Research Institute (PHRI)
No. 3	Basic Methodologies for World Economy, Trade & Transit Analysis and Forecasting	An introduction to theories, and methods of world economy & trade, economic analysis of management & transit	Lecture & problem exercise sessions of international trade, managerial economics	15 days	Kyoto University Group (KUG), Professors of Kyoto, Okayama & other universities
No. 4	Exercises for Transit Forecasting & Project Evaluation	Analysis exercises of the SCA problems	Lecture & application problem exercises of forecast and project evaluation	10 days	Mitsubishi Research Institute (MRI)
No. 5	Workshop of Job Initialization	A brief explanation of research planning, execution & control, and research organization management	Lecture & workshop sessions on the SCA's research needs and the Economic Unit's roles; assignments	5 days	Mitsubishi Research Institute (MRI)
	Extra-curricular Activities; Field Trips	Field observation trips of actual sea-borne trade operations in Japan	Visits to harbours of SHIMONO-SEKI, KITAKYUSHU, KOBE, KASHIMA, etc.		Japan International Cooperation Agency (JICA)

(4) Evaluation of Training

At the end of the training in Japan, the training results were evaluated by using the following method for the purpose of obtaining the necessary data for planning the future cooperation and training.

1) Checking the extent of knowledge (self evaluation).
2) Checking the understanding of each curriculum (self evaluation).
3) Test and exercises of each curriculum.
4) Descriptive general evaluation by each lecturer.
5) General evaluation by the discussion of lecturers.

The detailed results, described in the training evaluation report (February 1979), are omitted. The summarized evaluation results are described below.

Generally, most of the basic knowledge and techniques of each curriculum were acquired by trainees. Specially, the individual "How to" subject was satisfactorily mastered. It was judged that it was necessary for the members of the Economic Unit to improve the ability to apply the basic knowledge and techniques to practical problems pertaining to the Suez Canal.

Evaluation results by the methods (4) and (5) can be summarized as follows:

a) Wider and deeper knowledge was acquired in each subject, and a considerable progress was achieved through the training.
b) However, the trainees were not capable of using what they had learned in analyzing the complex problems. Although they were able to solve simple problems by utilizing their knowledge, yet they were unable to make a systematic approach to solve the complex problems.
c) They were able to readily solve the problems once formulated, but their technique to formulate the problems was not satisfactory.
d) Capability to understand the explanation using models and formulae was insufficient
e) They had a fundamental knowledge on economics, but did not understand frequently the meaning of the concepts of economics. This caused them to commit fundamental mistakes in making exercises. The same thing could be seen for the statistical formula approach, etc.
f) The trainees had a good understanding for 'how to', but were not so good for 'why' which should be understood by the principle. Through the training, their approach by 'why' was slightly improved, but it was considered that a considerable time would be necessary to reach the satisfactory level.
g) Due to the difference of abilities between the trainees in mathematics and statistics, trainees were sometimes divided into two classes according to the subjects. The same difference of ability was observed in the mathematical approaches.
h) It can be said generally that, they had acquired fundamental knowledge and technique required for understanding the training curricula planned for the next fiscal year.

3.2.2 Evaluation of the First Year Training and The Subjects for the Following Year.

Most of the first year's training program was held in Japan. The success of the first year's training program was depending on the achievement of the training in Japan.

The objectives of the first year's training, as explained in 3.2.1, allowed six staffs, having the different careers, to understand the problem consciousness and the framework common to the Economic Unit in conjunction with understanding the basic knowledge, technical ability and methodology essential to the research work of the Unit.

Those of the objectives, as described in the previous paragraph, were deemed to be achieved satisfactorily.

Furthermore, from the view point of the following year's program planning, the assessments were made to prepare the following recommendations.

Recommendations concerning the following year's training program were as follows;

1) Through the "Training in Japan" from October to December in 1978, the trainees acquired almost all the basic knowledge required to understand the curricula for the Fiscal 1979 Training Program. It can be said that they understood 'how to' approach through the training in Japan.
2) However, they were still lacking in the ability to apply the basic knowledge to producing the "research output", in the application ability and practical research ability. So, at the current stage, trainees must overcome many difficulties if they must carry out alone practical analysis in a systematic way.
3) Therefore, they should receive the on-the-job training under the guidance of Japanese experts to produce "research output", using the knowledge they had acquired in the Fiscal 1978 Training Program in Japan, and to acquire the know-how of various kinds for practical analysis.
4) In order to achieve this, the trainees should be provided with manuals which describe the procedures to produce the "research output", and should get the on-the-job training according to these manuals.
   (It is desirable to start from the theory or way of thinking which is the background of 'how to'. However, the trainees were not familiar with the study method based on 'why'. Therefore, in order to raise the technical level of trainees, it may be better to use the following training method; the training must be mainly based on 'how to' knowledge at the first stage, then the background theory must be given to deepen the understanding and strengthen the application ability after they have fully learned 'how to' knowledge.)
5) In order to carry out an effective study, they should learn the reason why such procedures are effective, as a background knowledge of the already acquired analysis and forecasting procedures. Thus, in parallel with the on-the-job training, they should receive training as to academic background of their knowledge. Through acquisition of the academic basis, a possibility appeared to them to make research and analysis of higher level in the next step.
6) The Fiscal 1978 Training in Japan was a basic training course, with major emphasis placed on the basic items to be understood by all members of the Economic Unit. So all the members received the same training. However, Training Programs from Fiscal 1979 onward were recommended to be drawn up in such a way that for some curricula the class should be divided into two or more groups according to the role of each member in the Unit.
7) The Fiscal 1979 Training in Japan revealed that the trainees were, in general, lacking in the formulation ability to express the problems in terms of formulae and mathematical expressions. For the future on the-job-training, it should be necessary to improve their

formulation ability by giving many application problems.

3.3 The Training of the Second Year

The following trainings were conducted during the second years.

1) Training in Egypt I. (July 1979 – August 13, 1979 for six weeks)
2) Training in Japan (October 1979 – December 1979 for nine weeks)
3) Training in Egypt II (November 6 – November 26, 1979 for three weeks)
   (In addition to the above, the follow-up training was given to the trainees when the report explanation mission was dispatched in February 1980 but the description on this matter is eliminated.)

3.3.1 Training in Egypt I

(1) Outline

The training in Egypt was conducted from July 1979 to August 12 for six weeks, during the period four consultants were dispatched from JICA for training.

Besides, partially overlapping period, the experts consisting of two university professors were dispatched from JICA for training the theory and application of economics, and systems analysis. In this period, the following E.U. staffs were trained.

(78T)	Mr. Negm	Mr. Haggag	Mr. Hagazi
	Mr. Rizk	Mr. Marei	Miss Sobhy
(79T)	Mr. Kadry	Mr. Khaled	Mr. El-Maghraby
	Mr. El-Manakhly		

(2) Objectives

In the framework of three years training program, the objectives of the training in Egypt I were as follows:

1) The staffs assigned in the first year should acquire the capability to apply the basic knowledge and techniques learned in the first year to the practical problems.
2) The members assigned in the second year must acquire the basic knowledge required for E.U. staffs similarly to the first year's trainees. In this training the first year's text was used for the lecture and the exercises.
3) Promoting the understanding of the objectives, the organization, and the function of E.U. This should be done by the organization and function report prepared in the first year.

(3) Program

For achieving the objectives, the training program was planned as follows:

1) For six trainees assigned in the first year (78T), several specific themes relating to the operations of the Canal were selected to prepare the job research output of the Economic Unit.
2) New four staffs assigned in the second year were trained to acquire the basic knowledge by using the first year's textbook by coordinating with the two university professors.
3) Explanation and instruction of system analysis report.
4) Facilitating the understanding of the organization and the function of the Unit.

The above program is summarized in Table 3-2.

Table 3-2 Program for the Training in Egypt I (1979)

	Trainees in 1978 (78T: 6 members)		Trainees in 1979 (79T: 4 members)
	Economic research group	System analysis group	
Training items	(1) Excercises check and review.	(1) Excercises check and review.	(1) Facilitating the understanding of the organization, functions and jobs of the Unit.
	(2) Explanation of the System Analysis Report I 1) PART III Presents status report and transport cost. 2) PART VII Report summary on maritime transportation. Combined with (3).	(2) Explanation of the System Analysis Report I 1) PART IV Traffic volume short-term forecast 2) PART V Traffic volume long-term forecast (tanker) 3) PART VI Existing FS summary 1) and 3) were combined with the guidance in (3).	(2) Lectures and exercises of 1978 curriculum (78C) 1) Shipping practice (liner, tramp and tanker) Textbook No. 1, Ch. 2, 3, 4 2) Transportation cost analysis. Textbook No. 1, Ch. 5 3) Feasibility study, introductory. Textbook No. 4, Ch. 4 4) Traffic volume forecast. Textbook No. 4 Ch. 3
	(3) Guidance for the preparation of the research outputs. 1) Maritime Economics. 2) Traffic volume.	(3) Guidance for the preparation of the research output s. 1) Short-term forecast of the Canal traffic. 2) Comparison and analysis of FS	
	(4) Facilitating the understanding of organization and functions of the Unit.	(4) Facilitating the understanding of the organization and functions of the Unit.	

(4) Evaluation of training

Concerning the evaluation of training in Egypt, the exercises given to 78T in February 1979 and the research output were evaluated.

With regard to 79T, the understanding of the basic course by using the first year's training text was evaluated. The results of the evaluation are enumerated as follows:

1) The evaluation of the exercises (78T).

The staffs had submitted the following report in response to the assignment given to each staff in February 1979 to make them to understand the actual canal problems.

(i) An outlook of oil demand of EEC & USA 1980's.

(ii) Analysis of VLCC traffic of 1978.

(iii) The Canal transit data analysis and short term forecasting.

Substantially, their reports were not fully satisfactory, whereas each member was exerting an individual ingenuity to make an effort to report concerning the collection and the analysis of data.

2) Evaluation of research output. (78T)

To look to the achievement of the research output prepared during the training in Egypt, the workshop was held in the final stage of the training course wherein each group presented two achievements selected from the following subjects in the presence of Dr. Ammar, Director, Mr. El-Dissawy, Deputy Director, Dr. Hillary and Japanese Survey Team.

i) Analysis of Effects of Freight Market upon Suez Canal Traffic (VLCC, 1978)

ii) Introduction to Analysis of World Energy Situations and Suez Canal Traffic.

iii) Summary of Previous Feasibility Studies.

iv) Short Term Forecasting of Canal Traffic

Japanese Survey Team evaluated the results and judged that the initial objective set at the beginning of the Training Egypt I (1979) had been attained.

3) Achievements of Basic Training (79T)

During the course of training, the degree of the understanding was grasped by putting a question and exercises problem, whereby it was deemed that they understood satisfactorily.

3.3.2 Training in Japan

(1) Outline

The training in Japan was conducted from October to December 1979. E.U. staffs visiting Japan were organized by the member of seven staffs of Mr. Haggag, Mr. Hegazi, Mr. Rizk, assigned to E.U. in the first year, and Mr. Kadry, Mr. Khaled, Mr. El-Maghraby and Mr. El-Manakhly assigned to it in the second year.

These trainees were trained by the experts in JICA, Ministry of Transport, other government agencies, Universities, Mitsubishi Research Institute and Japan Maritime Research Institute.

(2) Objectives.

The training program in Japan was planned according to the basic policy that the trainee should acquire the ability to apply the basic knowledge to the practical problems. The following objectives were established:

1) The staffs assigned in the second year would acquire the basic knowledge which would be difficult to obtain in Egypt and, at the same time, they would be levelled with 78T by OJT training.
2) The key-staff, who is expected to become a manager in the future, must acquire the knowledge concerning the functions and roles of planning in organization.
3) By employing methodology of higher level, on-the-job training would be continued following the training in Egypt.
4) To deepen the knowledge of the use of computer.
5) The understanding of the theory and techniques of econometrics.

(3) Program

In accordance with the objectives mentioned above, the following program was proposed and carried out.

1) 78T key-staff would carry on the discussions with the staffs of Planning Department at Ministry of Transport and other government agencies.
2) The staffs would deepen their understanding concerning the organization and the function of E.U. by using the Organization and Function Report of the first year.
3) To deepen their understanding concerning the jobs and subjects of the Economic Unit.
4) To deepen the understanding of the second phase Canal expansion project by using the progress report presented by the Japanese Government.
5) Following to the training in Egypt, the trainees were given the ability to apply the basic knowledge to various problems of the Canal.

The above program is summarized in Table 3-3.

Table 3-3 Program for the Training in Japan (1979)

		Objectives	Contents		Organization	Period
1	Organization Tasks of E.U.	Promoting the comprehension of organization, function of E.U. and the tasks of E.U.	Lecture by using organization reports. Visit to Ministry of Transport and other planning departments and discussion.	79T 78T	Mitsubishi Research Institute. Ministry of Transport, Keihin Port Development Authority and Metropolitan Expressway Public Corporation	2 days 3 days
2	Econometrics	Promoting the comprehension of methodology and theoretical background	Economic way of thinking Significance of model analysis Regression theory and method of least squares Vector and matrix	78T 79T	University	10 days
3	Evaluation of the second stage canal expansion project	To give the understanding of the practice of feasibility study	Lecture based on the report on the evaluation of the second stage canal expansion program. (progress report)	78T 79T	Overseas Coastel Area Development institute of Japan	2 days
4	Systems analysis	Cultivating the ability to make out the output by using advanced methodology	Advanced tanker forecast model Introductory non-tanker forecast model Traffic volume forecast and canal expansion plan evaluation (OJT by computer)	78T 79T	Mitsubishi Research Institute	10 days
5	Maritime economics	Cultivating the ability to prepare the research output by higher grade methodology.	Liner Tramp ships Tanker Current energy circumstances Data collection and control Preparation of research plan	79T 78T 79T	Japan Maritime Research Institute	10 days

(4) Evaluation

The evaluation of the training in Japan was carried out, in the same manner as the 1st year, on the basis of the training records made by each lecturer and comments by persons concerned. The outline is as follows.

1) The sufficient time should be provided for the understanding of the organization and the function of E.U. Concerning the tasks of E.U., the understanding was deepened.
2) Concerning the significance of the planning department, there was a request to acquire a good knowledge of the details. In the future it would be essential to take measures of providing such an opportunity.
3) Concerning the economics and the econometrics, the trainees understood the individual practical technique, whereas the understanding of thinking method and the limitation of the technique would be the task in the future.
   Owing to the restriction of Japanese side, this course was carried out for one group, while it would be preferable to implement separately according to the speciality of the staffs.
4) Systems analysis
   The staff understood the forecasting technique of tanker and non-tanker forecasting model, while it would be necessary in the future to understand how to use the Canal traffic data stored in SCA for the forecasting analysis.
   OJT on the traffic volume forecast and the project evaluation by employing computer models deepened the understanding of input/output of the model and how to tabulate and make figures from the model outputs.
   In the future it is essential to train them to prepare the input data and the model parameter.
5) The understanding with regard to the use of a computer advanced. It would be desirable to give young staff members a specialized training course in computer programming.
6) Maritime transportation
   The advanced course in shipping was carried out for both 78T and 79T, because a basic course had already been given to them previously. Consequently the practice of the cost analysis such as the voyage estimate was achieved by all the trainees. The research plan concerning the tanker was worked out individually without the help of the Japanese experts.

3.3.3 Training in Egypt II

(1) Outline

The Training in Egypt II was conducted at SCA from November 9 to November 28, 1979 for three weeks. Two consultants were dispatched for the training. This training was specially prepared for three members, Mr. Negm, Mr. Marei and Miss Sobhy, who remained in Egypt while other seven members were receiving the Training in Japan in this time.

(2) Objectives

The most important objective of training in Egypt II was to give an opportunity of receiving training as continuously as possible for those of the staffs who could not visit Japan.

On account of the fact that the trainees were all members of 78T, the objectives of the taining were decided as follows:

1) to apply advanced systems analysis technique to solve the problems concerning the Unit.
2) to promote the understanding of the methodology of project evaluation.
3) to give advanced knowledge and technique on maritime transportation.

(3) Program

The following program was implemented in order to achieve the objectives mentioned above.

1) Tanker long-term forecasting model and a case study
2) Non-tanker long-term forecasting model and a case study
3) Canal expansion project and a case study of project evaluation
4) Balance of demand and supply of tonnage, freight market analysis.

The contents of the Training in Egypt are shown in Table 3-4.

Table 3-4 Program for the Training in Egypt II (1979)

No.	Title	Contents	
1.	System analysis	Tanker long-term forecast: Lecture on new forecast model considering market conditions. Case study by computer model. Installing computer program into SCA computing center. Non-tanker forecast: The explanation of an introductory model and case study. Project evaluation: Analysis of canal project by DCF method and case study.	
2.	Maritime transportation	Non-tanker: Demand/supply by ship type. Tanker: Tanker supply. Slow steaming Demand/supply balance. Model of investment to tanker.	
3.	Exercises	Long-term forecasting of the Canal traffic and comparisons of canal expansion projects. Effects of a revision of the Suez Canal tolls.	

(4) Evaluation

The evaluation of the training results was made by two consultants as follows.

1) The trainees understood sufficiently the methodology for long-term forecasting of tanker traffic.

   It was necessary for them to further strengthen the ability to make arrangements and describe systematically the result when varying the various factors of the inputs and parameters of the models.

2) The trainees understood the introductory technique of non-tanker forecasting but still insufficient in understanding the importance of the OD analysis by commodities and analysis by ship types. Such an analysis technique must be enhanced through on-the-job trainings.

3) The trainees understood satisfactorily the problems of the demand and supply in tramp ships. In case of lacking in some data the method how to supplement the data must be acquired by on-the-job trainings.

4) Tanker:

   General knowledge with regard to the tankers proved to be sufficient. However, capability to formulate the complex activities such as tanker investment activity was not satisfactory. It was considered necessary to develop the ability through case studies.

3.3.4 *Evaluation of the Second Year Training and the Subjects for the Following Year.*

The organization and functions of the Economic Unit had been recommended by the first year program. In conjunction with the study of the organization and function, a framework of three years training program had been planned. All the members of the Economic Unit were trained with regard to the basic knowledge and techniques required for them (Basic training). Taking account of the training program and the achievements of the first year training, the second year training program was planned in the framework of the three year training program.

The principal objective of the second year training was to develope the capabilities of the staffs in applying the basic knowledge and techniques to the practical problems pertaining to the Suez Canal.

This was almost achieved at the second year training.

The objective of the on-the-job training in this year was to develop capability of all the staff members in producing research outputs by being given instructions individually by JST. In order to effectively operate the Economic Unit, however, it was considered necessary that each member must carry out his assigned job and the Unit must produce high efficiency. However, the staff members of the Unit lacked the experience on this matter, therefore, it was judged to be necessary to enhance the systematic operation capability in the 3rd year training program.

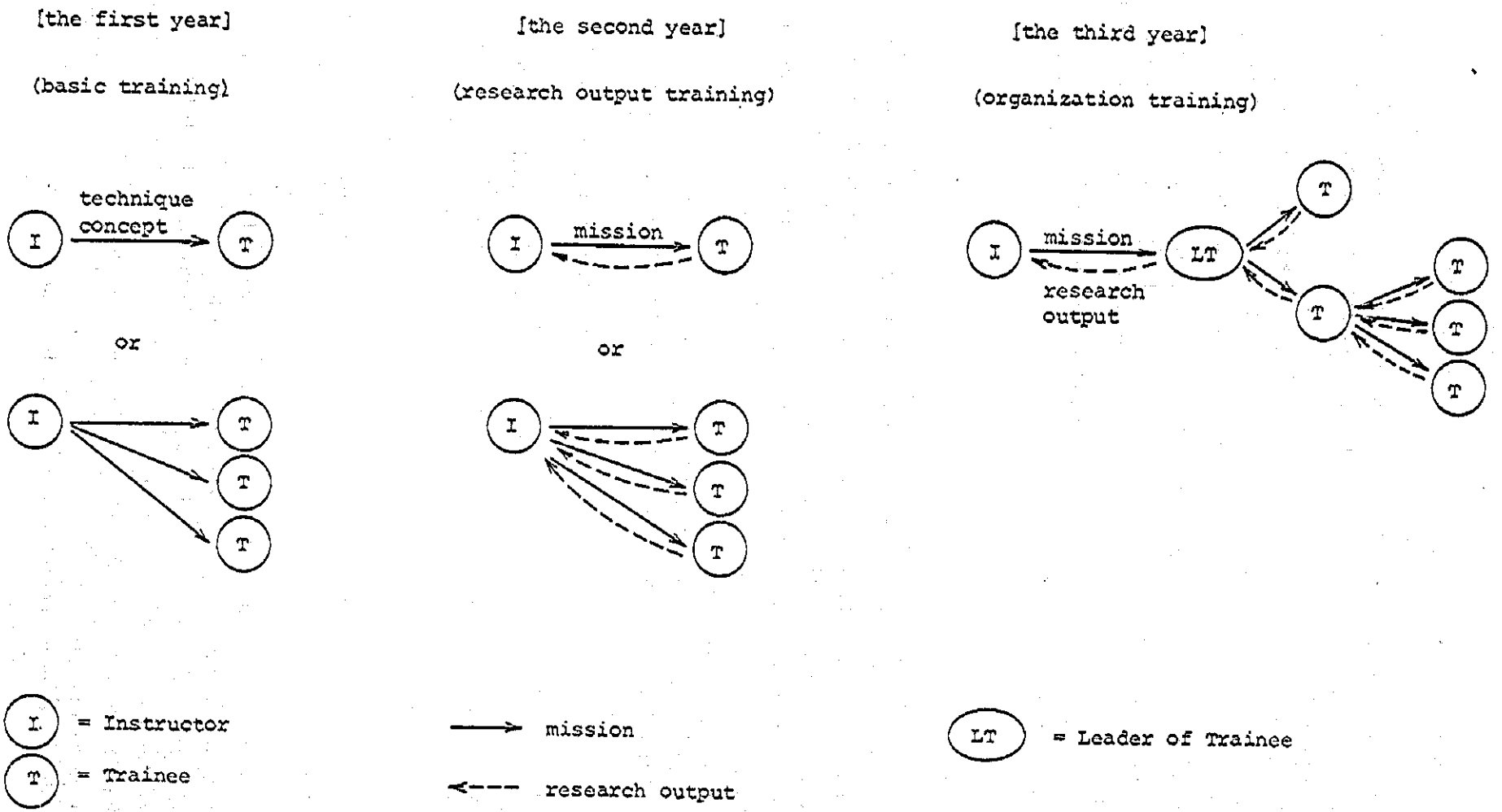


Fig. 3-3 Training System in Each Year

3.4 The Training of the Third Year

In planning the third year training program, due considerations were given on the following points, 1) the framework of the 3-year cooperation program and 2) the results of the first and the second year training programs.

A particular consideration was also given to the point that the managers and 10 staff members had to undergo an appropriate training required for becoming able to fulfil their respective functions as a part of the organization of SCA after 1981.

The Japanese Government sent its mission to SCA in February 1980 to make presentation of its basic concept on the above and reached an entire agreement in thought with SCA. As for the training in Egypt, in particular, SCA strongly asked the Japanese party to continuously send JST to Egypt to the maximum possible extent and the Japanese party agreed to comply with this request of SCA as much as possible.

3.4.1 Training in Egypt I

(1) Summary

The training in Egypt was implemented at SCA for the period from September 12, 1980 to December 25, 1980 (for approx. 14 weeks). During this training period, 5 consultants were sent from JICA to Egypt to be engaged in the training program.

The members of the Economic Unit listed below participated in the training program during the aforementioned period:

Manager : Dr. Abou-Taleb
ERG : Messrs. Haggag, Beshir, Hegazi, Kadry and El Maghraby
SAG : Messrs. Negm, Khaled, El Manakhley, Rizk and Marei

(2) Objectives

On the basis of this year's training objectives as mentioned in the foregoing, the objectives of the training in Egypt I were set as follows:

1) To enable the newly assigned Economic Unit manager to comprehend the history and process of this cooperation program so that the technology required for the management of the Unit can be effectively transferred.
2) To give OJT to enable them to carry out the systematic operation of the whole Unit.

(3) Program

In order to accomplish the aforementioned objectives, the following programs were planned and implemented:

1) Manager
   a. Explanation of contents of the first and second year technical cooperation
   b. Explanation of the Report on Organization and Function
   c. Brief explanation of the System Analysis Reports I (1978) and II (1979)
   d. Training on management and control
      Method and practice of management and control of the Unit
   e. Training on job planning
      Design and its method of the operation plan of the Unit
   f. Basic administration system.

To administrait the Unit, the following system was instructed to the manager.

Regular meeting

Documentation and circulation

Labor cost (unit cost) calculation

Job establishment and weekly job report preparation

Job planning and process control

2) Group leaders and other members

a. OJT for Research jobs

b. OJT to prepare the research output (e.g. Bulletin, Short Analysis Report and Yearly Report, etc.)

c. OJT regarding 1) f above

d. OJT on collection, analysis, evaluation and storing of information and data.

f. Training of micro computer operation

(4) Evaluation

The evaluation of the Training in Etype I was made from the following two standpoints,

1) whether or not the manager of the Economic Unit had been trained sufficiently from the point of the objective mentioned in (2).

2) whether or not the trainees had acquired sufficient capability to carry out systematically their research jobs as an member of the organization.

a. Training of Manager

Understanding was made on the contents of the first and second year technical cooperation programs and the outline of the System Reports No. I and No. II. The manager of the Unit showed better understanding on its function, significance and roles in SCA. By understanding the system report, further understanding was made on the extent of capability of the members of the Economic Unit.

As for the administration of the Unit by comprehension and practice of the methodology in administration and planning, jobs of the Economic Unit such as preparation of AB/EX, bulletins and short analysis reports came to be performed systematically under the control of the manager.

b. Training of Staff

All the staffs became to perform their role in the Unit under the control of the manager, producing AB/EX, Bulletin and Short Analysis reports.

3.4.2 Training in Japan

(1) Outline

Training in Japan continued for about two months from Jan. 14 to March 9, 1981. Including a manager, Dr. Abou-Taleb, who was assigned to the Unit in May 1980, seven members were sent to Japan as trainees. Other members were Messrs. Negm, Beshir, Kadry, Khaled, Maghraby and Marei. After going through the orientation at Japan International Cooperation Agency and the Ministry of Transport, all trainees were individually provided with on-the-job training from specialists and experts on the specific theme of their choice at the public organizations, universities and consultant agencies.

(2) Objectives

The purpose of the training in Japan was to train the manager and the group leader as administrators and to give the staff members individual technical training.

1) To give the manager and the group leader technical guidance in planning and administration following the field training.
2) Following last year's training, to help the manager and the leading staff members deepen their understanding of the way the planning section should be.
3) To help the staff master skills and techniques required for their future roles through on-the-job training.
4) Individual training for staff members in such fields as systems analysis, maritime economics, computers, economic and financial analysis, with due consideration given to the individual's future area of responsibility in the organization.
5) To complete the training, special lectures by university professors on planning, assessment, shipping and C/B analysis. Table 3-5 shows the summary of these programs.

Table 3-5 Program for the Training in Japan (January 14 – March 9, 1981)

(1)

Fields	Contents of the training	Trainees	Organization
1. Organization and planning	Administration and planning in organizations	Dr. Abou-Taleb	MRI
	Planning methods *Technological forecasting *Some advanced systems analysis technologies pertaining to the complicated systems *PERT/TIME	Mr. Negm	
	Long-term, medium-term, short-term planning	Dr. Abou-Taleb	MRI
	Administration planning	Dr. Abou-Taleb	MRI
	Visits to planning departments	Dr. Abou-Taleb	SDPCB
		Mr. Negm	KPDA
		Dr. Beshir	MEPC
	Planning in public sectors	Dr. Abou-Taleb Mr. Negm Dr. Beshir	OCDI
2. Information system	Information management system on-line	Dr. Abou-Taleb	MRI
	Database system	Mr. Negm	MRI
3. Systems analysis	Consultation for Short Analysis Report	Mr. Negm Mr. Khaled Mr. Marei	MRI
	Canal traffic forecasting model *Route choice model *Parameter estimation methods	Mr. Negm Mr. Marei	MRI
	Economic analysis in regional development planning		
	Economic appraisal of transportation projects		
	A study of toll analysis model		

Fields	Contents of the training	Trainees	Organization
4. System analysis and computer	Development of a computer model for non-tanker traffic forecasting	Mr. Khaled	PHRI
5. Maritime economics	Study of recent tanker trade situations and tanker terminal/canal	Dr. Abou-Taleb Mr. Negm Dr. Beshir	JMRI
	Study of world shipping analysis model by system dynamics	Mr. Kadry Mr. Maghragy	JMRI
	Study of tanker shipping Tanker economics (slow steaming, beam/draft distribution, cost estimate, route choice)	Dr. Abou-Taleb Mr. Negm Mr. Kadry Mr. Maghraby	JMRI
	Analysis and writing report of review 1979		JMRI
	World economy, dry cargo trade and canal traffic	Dr. Beshir Mr. Kadry	
	Tanker trade, cost and canal traffic	Mr. Maghraby	
	Study of a computerized data gathering system and data base of a shipping company	Mr. Maghraby	JMRI
	Visit to research department of a company and study of shipping conference's tariff policy	Dr. Beshir	JMRI
	Visit to JETRO (Japan External Trade Organization), JICST (Japan Information Center for Science and Technology), Publication center of U.N., F.A.O., O.E.C.D., etc.	Mr. Kadry	JMRI

Fields	Contents of the training	Trainees	Organization
6. Special lecture	Planning, evaluation, and economic analysis Maritime transportation General concepts of cost benefit analysis	All the members	Prof. Y. Nagao Prof. T. Shimojyo Prof. H. Yamada Prof. T. Ihara
7. Economic and financial evaluation and other topics	Economic evaluation and financial analysis Application of C/B analysis and its problem Exercise on C/B analysis General concepts of comprehensive evaluation Introduction to risk analysis Engineering economy and dredging cost analysis	Dr. Beshir Mr. Khaled Mr. Kadry Mr. Maghraby Mr. Marei	Kyoto Univ. Kagawa Univ. Gifu Univ.
8. Miscellaneous	Review of three years training curriculum *Long-term forecasting model for tanker traffic *Project evaluation of the canal expansion project	Dr. Abou-Taleb Dr. Beshir	MRI

Abbreviation:

MRI	Mitsubishi Research Institute
JMRI	Japan Maritime Research Institute
PHRI	Port and Harbour Research Institute, Ministry of Transport
SDPCB	Second District Port Construction Bureau, Ministry of Transport
KPDA	Keihin Port Development Authority
MEPC	Metropolitan Expressway Public Corporation
OCDI	Overseas Coastal Area Development Institute of Japan

(4) Evaluation

The current training in Japan, unlike the previous ones of the past two years, placed its emphasis on the improvement of knowledge and skills required for the execution of future duties of individual staff members based on their roles in the Economic Unit. Training operation was therefore based on the voluntary participation of the manager and the individual staff members, each of whom tackled different tasks.

Consequently, it is rather difficult to compare the individual achievements as in the past. But taking all the views and opinions expressed by the Japanese instructors and those concerned into account, it was concluded that every trainee has mastered the necessary knowledge and skills and developed some of the important abilities required to execute his jobs for the Economic Unit from April 1981.

3.4.3 Training in Egypt II

(1) Outline

Training in Egypt II was carried out at the Suez Canal Authority for 30 days from Feb. 17 to March 18, 1981. Three Japanese consultants were sent from the Japan International Cooperation Agency to take on the task of training staff members of the Unit. Until March 13, the only trainees of Training in Egypt II were the following four members who remained in Egypt while seven other members were receiving training in Japan:

ERG: Mr. Haggag, Mr. Hegazi
SAG: Mr. Manakhly, Mr. Rizk

In the remaining training period after March 14, there was a complete group of staff members at the Suez Canal Authority, including the manager and six others who had just returned from Japan. At that time, a collective training was given to all of them to finish up the three-year training.

(2) Objectives

The objectives of Training in Egypt II were as follows:

1) To acquaint all staff members with how to use the job manual and information manual.
2) To make them fully realize that the Unit is to become independent and carry out jobs on its own from April 1981.
3) To provide the four staff members remaining in Egypt with the technical training necessary for the execution of their own jobs.

(3) Programs

In order to achieve the above objectives, the following programs were planned and carried out:

1) Explanation of manuals to the manager and the group leaders.
2) Explanation of manuals to staff members.
3) Manuals and movies to promote the understanding of information systems
4) On-the-job training to the remaining members of ERG.
5) On-the-job training to the remaining members of SAG. Technical guidance in preparing models and programing.

Table 3-6 shows the summary of these programs.

Table 3-6 Program for the Training in Egypt II (February 19 – March 15, 1981)

Fields	Contents	Trainee
1. Conclusive training Planning, administration and research	1) Job manual Organization and function Job planning Job administration and supervision Research 2) Information manual	1. Messrs. Haggag and Hegazi 2. All members
2. On-the-job training for systems analysis	1) Model building and a case study Route choice model 2) Non-linear optimization methods 3) Model building and computer programing Fleet forecasting model 4) Computer program writing	Messrs. Manakhly and Rizk
3. On-the-job training for maritime economics	1) Analysis and writing report of review 1979 2) Tanker economics (Slow steaming, VLCCs' beam/draft distribution) 3) Evaluation of 1st Stage Development and new toll tariff 4) Visit to and discussions with staffs of SUMED Pipelines in Alexandria	Messrs. Haggag and Hegazi
4. Information system	Movie (Information analysis center)	Management of PRD All members

(4) Evaluation

There were two purposes for the Training in Egypt II. First, it was aimed at improving the knowledge and skills of four staff members who remained in Egypt to carry out their own jobs from April 1981, in the same way as those sent to Japan for the training there.

The second purpose was to give explanations of the operational manuals and information manual to all the staff members on the return of seven trainees from Japan so that they would be well prepared for the independent operation of the Economic Unit from April 1981.

Regarding the first purpose, individual members according to their job responsibilities could improve their skills and knowledge required for the execution of their duties, cultivating their own critical minds by themselves.

Concerning the second purpose, they seemed to fully understand how to use the manuals in a short period of time. As a result, it was concluded that they were prepared for running the Economic Unit by themselves from April 1981 on the basis of past reports, training texts, and the experience of on-the-job training and utilizing such manuals.

3.4.4 Evaluation of the Third Year Training

The third year training was initiated with the aim of making the manager and staff members capable of operating the Unit organization on the premise that the Economic Unit becomes independent from April 1981 and functions as a part of SCA organization.

Concerning the organizational operation, as stated in the section on the results of the Training in Egypt I, the manager and group leaders are now actually taking the chief roles in handling the preparatory work for various job outputs. Also, in terms of the improvement of skills required for various duties, individual members were able to acquire greater knowledge and sufficient skils to carry out their jobs through the training in Japan. In the same manner, those staff members who remained in Egypt could improve their skills through the training in Egypt II.

With the completion of the technical cooperation program, staff understanding of how to use the job manual and information manual was greatly facilitated, and the training objectives as set at the beginning were all achieved.

4. ORGANIZATION AND ACTIVITIES OF THE ECONOMIC UNIT BASED ON TECHNICAL COOPERATION

4.1 Summary

This section describes how the Economic Unit has developed into shape and started organizational activities in the course of the 3-year technical cooperation program. The organization of the Economic Unit was recommended to SCA on the basis of the first year technical cooperation program implemented in 1978 and in accordance with the recommendation made, staffs have been assigned and training programs in Japan and Egypt have been planned and implemented. Most of the time during the initial year was spent principally for acquisition and digestion of the fundamental knowledges, and the organizational activities were not done at all. While the second year was supposed to be spent by 78T for acquiring the capability of applying thus acquired basic knowledges to the actual problems, the preparation of research output was also conducted in part organizationally. To 79T, however, this year was the period for acquisition of the fundamental knowledges and techniques as well as developing capability of applying them to practical problems. The managers of the Economic Unit were selected by SCA in the third year, and the organizational activities started by the guidance of the JST with the objective to start performing its functions in the SCA organization without help of the JST after April 1981.

Section 4.2 explains briefly the organization and functions of the Economic Unit which is proposed by the Japanese party, and described in Section 4.3 is the process of assignment of staff of the Economic Unit. And Section 4.4 describes the activities conducted by the Economic Unit from the initial year through the third year.

4.2 Organization of Economic Unit (Proposed by Japanese Government)

As a result of the survey implemented on the basis of the 1978 Technical Cooperation Program, the organization of the Economic Unit was proposed to the Suez Canal Authority. (Refer to Organization and Function Report for detail). Described hereunder are the long-term objective and the organization which are the extractions from the report.

(1) The Long Term Goals of the Economic Unit

It is our belief that in the future the Economic Unit should become directly involved in SCA top management planning and decision making activities and processes, acting as a staff organization for "research and planning." This role can be performed most effectively if the Unit remains within the organizational framework of the present Planning and Research Department (PRD).

The establishment and development of the Economic Unit should directly serve the purpose of strengthening the organizational capabilities of the PRD.

1) Collection, storage and maintenance of data and information relating to planning problems.
2) Processing of data, analysis and evaluation of the information and selection of policy alternatives

3) Formulation of strategic and management plans and implementation and control procedures

In the future the reinforced Planning Research Department should consist of four Sections; 1) Planning Section, 2) Economic Research Section, 3) Systems Analysis Section and 4) Information Section. The Planning and Information Sections are, in part, already existing in the PRD and the remaining two sections are those which are planned to be established as the "Economic Unit."

In order to realize the long term goal of the Economic Unit, organizational reshuffling or reform may become necessary in the future to redefine what kind of roles should be played by individual sections and departments with respect to the SCA management's planning functions. Re-examination and re-evaluation must be performed for this purpose on the following problems:

1) Functions and tasks that are now carried out by the Planning and Statistical Sections as their routine jobs.
2) Problems of how intradepartmental planning functions or activities (e.g., work, budget and project planning) should be coordinated with the planning functions of the PRD and Economic Unit.

The establishment of the Economic Unit should be considered to be the first step in achieving the long term objectives described in the previous paragraphs. The attainment of these goals is thought not only desirable but also feasible, judging from the information available to us about the SCA's internal workings and the general capabilities of the Economic Unit's staff members. Nevertheless, it cannot be denied that these objectives will be attained only through gradual and step by step development of the organizational capabilities of the Economic Unit.

(2) The Short Term Objectives of the Economic Unit

As a first step the Economic Unit should be divided into two "groups," but not as sections; the Economic Research Group and the Systems Analysis Group. Their major functions are to provide information analysis and research services to the SCA management. Their purpose is to assist the SCA management in making rational and optimal planning and decisions on matters concerning the SCA's Canal operations. During the initial few years, an incubation period, the Economic Unit should devote its full resources, efforts and time to the development of its capabilities as a "research organization," but should not participate in any phase of the planning process of the SCA management. The research functions and tasks of these two Groups are to be briefly explained as follows:

(3) Economic Research Group

Its main tasks are collection, analysis and evaluation of data and information relating to the SCA's external problems, particularly the economic, financial and technological aspects of these problems. Through these activities the Economic Research Group tries to keep the SCA management abreast of current trends and developments in the SCA's environment affecting the Canal operations. Specific tasks of information analysis and research work of this group are spelled out below:

1) Data and information collection, storage, analysis and evaluation of trends of the Canal traffic, e.g., trends in world economy and trade, seaborne trade, commodity flow of major items (oil, oil products, bulk cargoes, etc.), shipping costs and route costs, fleet mix, ship building and Canal related technologies, external trends affecting determination of tariff, cost trends, etc.

2) Economic and technological forecasts on the problems mentioned above; this forecasting analysis should be carried out with the technical support of, or jointly with, the staff members of the Systems Analysis Group.
3) Data and information collection, storage, analysis and evaluation of financial and cost trends or problems affecting the SCA's operations and management; e.g., financial policies and statutes of major countries and shipping companies and operators analysis of the SCA's of internal cost structure such as operating and maintenance costs of the Canal which are not routinely dealt with by the Financial Department, etc.
4) Forecasting analysis of costs and financial trends or problems mentioned above; e.g., assessment of ship operators' response to the SCA's tariff policy, financial status analysis of ship operators, constructors and so on, trends projection of shipping costs and route costs, etc.

(4) Systems Analysis Group

The Systems Analysis Group is charged with the responsibility to engage in quantitative analysis and forecasts of SCA's external and internal problems which require sophisticated and specialized mathematical and statistical knowledge and skills. Its main task is to analyze and evaluate these problems in depth and to formulate alternative solutions for the SCA management. The specific research tasks or work are:

1) Systems analysis and forecast of the Canal transit volume and cost structure of shipping and route costs, etc.
2) Quantitative analysis and forecast of effects of tariff determination and the SCA's revenues.
3) Analysis and evaluation of feasibility studies which are made by outside consultants.
4) Evaluation of various kinds of projects including the Canal expansion project.
5) Technical support services which will be provided to other sections and departments in the fields of systems analysis techniques, computer programmes and software development, etc.
6) Establishment of information and data management system for the Economic Unit.

It is our judgement that the Economic Unit's work will be adequately carried out by staff of 14 researchers and/or analysts headed by the manager of the Unit and supported by several secretaries, clerical and/or research assistants. The staff composition can be stated as follows:

Manager of the Economic Unit	1
Economic Research Group	6
Systems Analysis Group	8
Total (excluding the secretaries and assistants)	15

The staff organization should be interpreted in terms of the following criteria and standpoints;

1) The total size of the staff required for the Economic Unit should be determined by taking account of the nature, type and volume of the specific tasks to be undertaken by each group.
2) The staff size cannot be strictly measured in terms of a ratio of expected workload over the staff member's productivity, partly because a variety of research tasks cannot be assessed by a standard unit of measurement and also, because the workload may expand as the staff's capabilities will increase.

3) The six staff members of the Economic Unit who were already trained in Japan should be considered as the core group of the Unit. In view of their capabilities and fields of interest, it is our judgment that two of them should be assigned to the tasks of the Economic Research Group and the remaining four members to the Systems Analysis Group.

If cannot yet be determined when the Economic Unit will become ready to be fully integrated into the organizational framework of the Planning and Research Department, this judgment should be made by taking into consideration the following:

1) Types of personnel recruited for the Economic Unit and the research capabilities they will attain through technical training.
2) The SCA management's decision as to how organizational reform or reshuffling should be made so as to increase the organizational efficiency of the planning and decision making processes of the SCA.

The first and most important short term objective is that the Economic Unit should become fully operational as a research organization within the shortest possible time. For this purpose, the organization building of the Economic Unit must proceed hand in hand with the training program of its staff members. In this respect, careful attention should be drawn to the following:

1) The Economic Unit should start producing its own research output as soon as it becomes ready to initiate its activities.
2) As the staff members' capabilities improve, so the amount of output should expand and its quality should be upgraded step by step.
3) The Economic Unit's jobs should be created and become "routinized" through constant assignments or reassignments of specific research and information analysis, programs or projects.
4) During the initial few years – the incubation period of the Economic Unit – JICA will provide the SCA with as much assistance as possible through the technical cooperation program. This assistance will be, for example, 1) technical training of key staff members, 2) on-the-job training for the job initialization at the SCA, 3) data and methodology manuals and other supporting materials for the research work. Despite this provided assistance, the SCA's self-efforts and organizational support should not be neglected for the development of the Economic Unit.
5) During the process of development, senior staff members of the Economic Unit must play important roles; i.e., active roles of planning, coordination, monitoring and control actions, leadership, administrative supervision, etc. In this respect, management education of the senior staff members of the Economic Unit may contribute a great deal to the organization building of the Economic Unit and to the effectuation of its work.
6) For the first step of the operation of the Economic Unit, a large scale computer system may not be used as an information data base. However, for the analysis of transit, traffic forecast, financial analysis and other types of systems analysis problems, computerized system of analysis of adequate level will be planned to be used. The type of information system required for the Economic Unit should be carefully evaluated from the standpoint of its economy, efficiency, capabilities of the staff members, amount of data processing work, etc. A hasty introduction of a full scale computer system should be avoided.

7) As the Economic Unit's research capabilities become gradually established, consideration should be made as to how its activities will be coordinated with those of the Statistical Section of the PRD.

It is advised that the following output should be produced by each group of the Economic Unit in the light of their respective roles and functions:

(5) Economic Research Group

1) Summary reports on various trends and developments in the SCA's environment
2) Data and information summarized as extracts and abstracts on important topixs or problems
3) Short analysis and evaluation reports on selected problems, written upon request
4) Data and information handbooks to be used as reference materials in the SCA, etc.

(6) Systems Analysis Group

1) Short and long-term forecast reports of transit and other problems
2) Analysis and evaluation forecast reports on feasibility studies
3) Project evaluation reports on some portion of a project
4) Computer programs and software packages, etc.

4.3 Process of Assignment of Staff of Economic Unit

The candidates selected by SCA from among the applicants from the outside and the inside of SCA were interviewed by the Japanese Survey Team for determination of the aptitude for the staff member of the Economic Unit. And SCA made a decision on assignment of the successful applicants to the Economic Unit on the basis of the result reported by the Japanese Survey Team. This recruiting method, however, was not applied to those applicants whose employments were already decided prior to the commencement of the technical cooperation program.

The process of assignment of the E.U. staff member during the survey process of the technical cooperation program is shown in Fig. 4-1.

(1) Assignment of 3 Freshmen

Immediately after the establishment of the Economic Unit in November 1978, Mr. Rizk and Mr. Marei, who had just been graduated from the college, were assigned to the Economic Unit. After the assignment to the E.U., these two members were trained at Statistical Section of the Planning and Research Department. Another new member was assigned to the E.U. in January 1978. These three members received lectures in economics, planning and statistics. Further, the Japanese Government's contact mission visited the SCA in February 1978 and interviewed these staff members.

(2) Assignment of Trainees of 1978

When the 3-year technical cooperation program started in July 1978, three members of the Steering Committee and ten consultants stayed in SCA for the period from July to August of the same year for surveys of the organization and function and the systems analysis.

During the period, interviews and written tests were given to these 3 persons and also to 4 other candidates who were selected by SCA (all of these 4 members were belonging to other departments).

After all, 6 members, including the above 3 members, were finally recommended as the unit members to the Director of the Planning & Research Department and, at the same time, they

were also recommended as the trainees to Japan. The 6 persons were as follows:

Mr. Negm
Mr. Haggag
Mr. Hegazi
Mr. Rizk
Mr. Marei
Miss Sobhy

The E.U. members numbered 6 as of August 1978, and the training started for giving basic knowledge and techniques necessary for performing jobs of the Economic Unit.

The Japanese Survey Team visited SCA in February 1979 and made a presentation of the report regarding the organization and function of the Economic Unit. It was recommended in the report on the organization that two groups consisting of the economic research group and the system analysis group should be established as the substructures at the initial stage of the organization.

According to the evaluation results of the training program in Japan, the 6 trainees were advised to be assigned to the following two groups:

ERG: Mr. Haggag, Mr. Hegazi and Miss Sobhy
SAG: Mr. Negm, Mr. Marei and Mr. Rizk

(3) Assignment of 1979's Trainees

The Japanese Survey Team, on the occasion of their stay at SCA in November 1978 and also in February 1979, interviewed 6 candidates for the staffs of the Economic Unit. In February, four members were recommended to join the Economic Unit in consideration of the evaluation results and the qualification conditions to be the members of the Unit.

On the basis of this recommendation, SCA formally decided to assign the following 4 members to the Economic Unit in May 1979:

Mr. Khaled
Mr. Kadry
Mr. El-Maghraby
Mr. El-Manakhly

As a result, the E.U. member has been increased to 10.

(4) Trainees in Japan

The Japanese Survey Team stayed at SCA for the months of July and August of 1979 for the 1979's Training in Egypt I. During this period, the recommendation of the trainees to Japan was made jointly by the members of the Steering Committee and the Japanese Survey Team, and as a result, 3 senior members of the 1978's trainees and the aforementioned 4 new members were selected as the trainees to Japan:

Mr. Negm (replaced by Mr. Rizk later)
Mr. Haggag
Mr. Hegazi
together with the aforementioned 4 members

(5) Assignment of Dr. Beshir

SCA assigned Dr. Beshir to the Economic Unit in November 1979.

(6) Grouping of 1979's Trainees

The Japanese Survey Team stayed at SCA in February 1980 for supplementary training and

also for discussing the training program for the next year. At that time, as for assignment of 4 1979's trainees, the survey team made the following recommendation based upon the evaluation results of their performance in the training in Japan, and SCA decided the assignment in accordance with the recommendation of the Japanese side.

Further, Dr. Beshir, who had already been assigned to the Economic Unit , was interviewed and given a written examination by the JST so as to judge his aptitude to be a member of the Economic Unit.

ERG: Mr. Kadry
Mr. Maghraby
SAG: Mr. Khaled
Mr. Manakhly

As of that time, the Economic Unit had 10 members. (Miss Sobhy retired from the SCA in February 1979)

(7) Assignment of Manager

While the assignment of manager was strongly requested to SCA from the beginning of the second year, it was difficult to realize this under the circumstances of SCA. As mentioned in 'Training Program', since the unit is to start functioning in the organization of SCA from 1981, it was necessary to assign and train the manager, and therefore, the government mission strongly emphasized this point in March 1980. As to this matter, SCA replied that it would assign a manager prior to the commencement of the 1980's technical cooperation program and it assigned Dr. Abou-Taleb to the post in May 1980. By completion of assignment of the manager, the members of the Economic Unit became 11 in total as shown in Fig. 4-1.

(8) Selection of Trainees to Japan

The Japanese Survey Team stayed at SCA for the period from September to December 1980 for the Training in Egypt I. The survey team and the Steering Committee, which were sent to Egypt in November of the same year jointly made recommendations for the selection of the trainees to Japan and SCA selected the following trainees:

Dr. Abou-Taleb	Mr. Kadry
Mr. Negm	Mr. Maghraby
Dr. Beshir	Mr. Marei
Mr. Khaled	

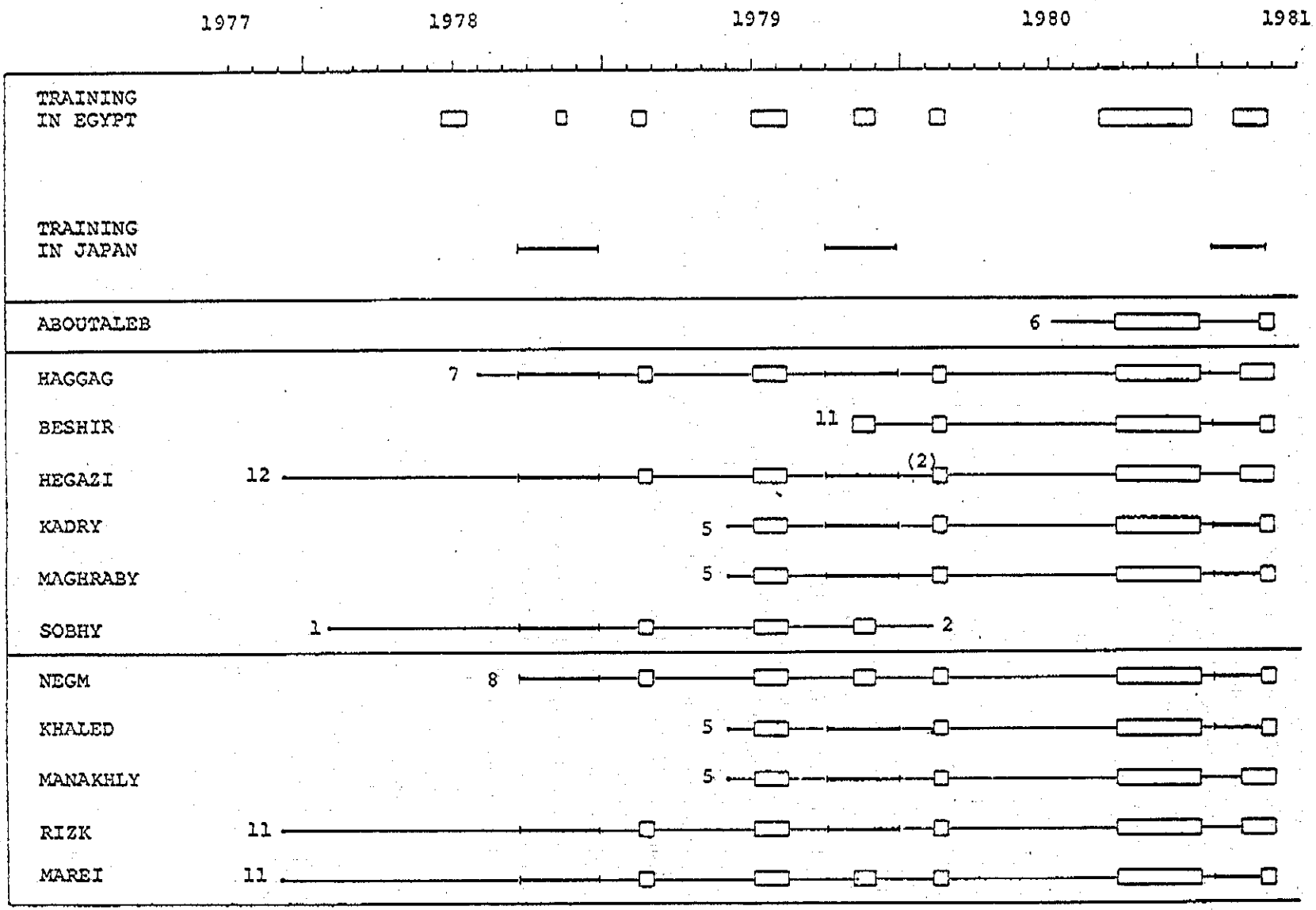


Fig. 4-1 Process of the Assignments of the Members of the Economic Unit

4.4 Activities of the Economic Unit Based on the Technical Cooperation

The activities implemented by the Economic Unit for the 3-year period (from July 1978 to March 1981) are deeply related to the processes of assignment of staff, the training in Japan and the training in Egypt. These processes are described in detail in separate sections. And therefore, the description in this section is mainly on the E.U.'s organizational activities.

4.4.1 The First Year (June 1978 – March 1979)

All the activities executed by the Economic Unit during the initial year were assigning and training of the staff, and the organizational activities were not carried out at all. The details regarding the assigning and training the staff, however, are already explained in the foregoing, therefore, the principal activities having been implemented by the E.U. are tabulated in the following:

1) August 1978: 6 members of the unit were provided with the preparatory training in Japan.
2) August – September 1978: Assignment concerning mathematics, statistics and economics were given.
3) Sept. – Dec. 1978: Provided with the basic training in Japan.
4) Jan. 1 – Feb. 1979: Assignments regarding the Training in Japan were given.
5) February 1979: Supplemental training was given for the Training in Japan
6) February 1979: By JST's recommendation based on evaluation of performance in the Training in Japan, each one of the members was assigned to ERG or SAG.
7) February 1979 – : The assignments, which were given to each member by JST in February 1979, were beeing performed. (individual assignment relating to the Canal)

Table 4-1 Activities of the Economic Unit (April 1978 – March 1979)

	1978 4	5	6	7	8	9	10	11	12	1980 1	2	3
Mr. Negm				Joined the Economic Unit								
Mr. Haggag				Selection of Trainees and Joining the E.U.						Training (Homeworks)	Supplemental Training for Training in Japan	Self Training (by individual areas)
Mr. Hegazi				Preparatory Training	Self Training		Training in Japan (Acquisition of fundamental knowledge and technology)					
Mr. Marei				Economics, Mathematics and Planning								
Mr. Rizk												
Miss Sobhy												
SCA				Discussion with JST				Discussion with JST			Discussion with JST	
JST				○ Organization Survey ○ System Survey ○ Preparatory Training ○ Selection of the E.U staffs				○ Interviewed candidates for E.U. members ○ Survey of E.U. Organization			○ Report on the evaluation results of the training in Japan. ○ Discussion on the following year program ○ Supplementary lecture	

4.4.2 The Second Year (April 1979 – March 1980)

All the activities of the Economic Unit during the second year were still concentrated in the improvement of each individual's capability by undergoing the training. However, since the objective of the training in this year was placed onto OJT for application of the fundamental knowledges to actual problems, organizational activities were also carried out to a certain extent. The activities of the new staff members assigned in this year (1979's trainees) were to acquire the fundamental knowledges and techniques. The principal items of the E.U.'s activities are tabulated as follows.

1) April – July 1979: 1978's trainees prepared report on the assignment related to the Canal.
2) May – July 1979: 1979's trainees answered exercises on mathematics, statistics and economics.
3) July – Aug. 1979: 1978's trainees prepared reports on the specific subjects assigned to individual groups. 1979's trainees were provided with the basic training.
4) Aug. 11, 1979: Each group presented the reports at the workshop.
5) Aug. 1 – Sept. 8, 1979: 1978's and 1979's trainees were given lectures by experts from universities.
6) Sept. – Oct. 1979: 1978's trainees' reports on the research were edited, printed and published. 1979's trainees studied exercises chosen from the Training Textbook.
7) Oct. – Dec. 1979: The 1978's trainees were trained in Japan (OJT). The 1979's trainees were trained in Japan (Lecture, OJT).
8) November 1979: Other 1978's trainees were trained in Egypt by JST (OJT).
9) January – February, 1980: 78T (trained in Japan) and 79T continued the OJT in Egypt (Self-training).
10) Dec. 1979 – Feb. 1980: Other 1978's trainees continued OJT (Self-study)
11) February 1980: The 1978's and 1979's trainees were trained in Japan and Egypt with supplemental lectures.

Table 4-2 Activities of the Economic Unit (April 1979 – March 1980)

	1979 4	5	6	7	8	9	10	11	12	1980 1	2	3
SCA				Discussion with JST						Discussion with the Government mission	Discussion with JST	
Mr. Haggag				OJT separately by groups (1) ULCC Actual Canal Traffic Analysis			Training in Japan				Supplemental Lecture	
Mr. Hegazi				(2) Energy	Lecture by Experts: Workshop							
Miss Sobhy						Edition, Printing and Circulation of Research Output		Training in Egypt	Self study based on Training in Japan and Training in Egypt (OJT)			
Mr. Negm				(1) Short-term Canal Traffic Forecasting								
Mr. Marei				(2) Analysis of Existing F/S					○ Computer Program ○ JST Assignment		Supplemental Lecture	
Mr. Rizk							Training in Japan					
Mr. Khaled		Self Training		Basic Training (Lecture)		Homework						to SAG
Mr. Kadry												to ERG
Mr. Maghraby												to ERG
Mr. Manakhly												to SAG

4.4.3 The Third Year (April 1980 – March 1981)

The target of the Economic Unit for the third year was the systematic execution of the activities of the Unit by all the members under the administration of the manager and the group leaders on the presumption that the E.U. is to start performing its function independent of JST in SCA organization. Activities during the period are as follows.

(1) April 1980 – August 1980

Prior to the visit of the JST to SCA, the E.U. kept implementing the following activities during this period:

1) Comprehension and Evaluation of reports prepared by the foreign consultant.

As SCA received reports from the foreign consultant in the previous year, the Economic Unit conducted studies on this reports under the guidance of PRD director and deputy director, organizing a study team of analyses of these reports.

2) Analysis of Feasibility Study of Japanese Government

As to the feasibility study on the second stage expansion program submitted to SCA by the Japanese Government in May 1980, the E.U. organized the study team, then analysed and evaluated contents of the report.

3) Toll Analysis (July 1980)

By the completion of the first stage Canal expansion project, revision of the toll has become an important subject to SCA. Therefore, the E.U. organized a similar study team in July 1980 and engaged in preparation of an analysis report for revision of the toll.

4) Evaluation of the Second Stage Expansion Program (Aug. 1980 – Sept. 1980)

The Japanese Government mission visited SCA in August 1980 for making presentation of the final report. And the Economic Unit analyzed and evaluated the report.

5) Instruction on Feasibility Study by F/S Survey Team (August 1980 – September 1980)

While the Japanese Government's F/S Survey Team stayed in Egypt, the survey team gave lectures on the economic and financial analyses, the technical aspect of the Canal and the shipping on the basis of the report on the second stage expansion project.

(2) September 1980 – December 1980

As mentioned in Section 3, the JST stayed at SCA for the period from Sept. 12, 1980 to Dec. 25, 1980 and provided the E.U. with a guidance regarding the organizational activities.

The E.U. performed the following activities under the guidance of the survey team:

1) Administration under the control of the manager

Under the guidance of the Japanese Survey Team, the E.U. started its activities by setting the following basic rules of administration.

a. Holding of Regular Meetings
   i. Managers Meeting
   ii. Group Meeting
b. Communication by Documentation
c. Calculation of Hourly Cost
d. Establishment of Job and Weekly Report

2) Preparation of Abstract/Extract

Preparation of abstract and extract of the publications related to the Suez Canal was

established as one of the routine research jobs of the E.U. Then, these jobs were carried out in the manner to assign the persons in charge for each publication and also to use the specially designed format sheet which was prepared under the guidance of JST.

Group	Persons in Charge	Titles of Publications	Remarks
ERG	Haggag	Middle East Economic Survey	
	Beshir	Lloyd's List	
	Hegazi	Petroleum Economist Financial Times Arab Oil & Gas	
	Kadry	Lloyd's List OECD Documents	
	Maghrab	Petroleum Intelligence Weekly	
SAG	Negm	Lloyd's Shipping Economist	
	Khaled	Pertoleum Economist	
	Manakhly	Petroleum Intelligence Weekly	
	Marei	Petroleum Intelligence Weekly	
	Rizk	Shipping Statistics & Economics	

3) Bulletin

E.U. started preparing the bulletin designed for quick and effective distribution of important information among the people concerned in the SCA. The first issue of the bulletin is to become a special issue for the introduction of the Economic Unit containing articles appropriately selected from among the abstract/extract sheets on various evaluation criteria, the chairman's comment, the introductory remark of the Director Dr. Ammar, the objective and organization of the E.U., introductions of all the groups and the scheduled activities of the E.U., etc. The contents of the buleletin are shown below:

CONTENT OF BULLETIN

1. Cover — Photo and Title
2. Comment — By Mr. Mashhour
3. Preface — By Dr. Ammar
4. Introduction — By Mr. El-Dissawy
5. Table of Contents
6. Introduction of Economic Unit and its Activities — By Dr. Aboutaleb
   a) Objective
   b) Organization
   c) Function
   d) Long Term Plan
7. Presentation of Research Groups, Members and its Capabilities
   7.1 Economic Research Group (ERG) by Mr. Haggag
      a) Role of ERG
      b) Function of ERG
      c) Services of ERG
      d) Members and its Capabilities with photos
   7.2 Presentation of Previous important Studies by Messrs. Kadry and Maghraby
   7.3 Systems Analysis Group (SAG) by Mr. Negm
      a) Role of SAG
      b) Function of SAG
      c) Services of SAG
      d) Members and its Capabilities with Photos
   7.4 Presentation of Previous Important Studies by Messrs. Manakhly, Rizk, and Marei
   7.5 Initiation for the Information System (IS) by Mr. Hegazi
      a) Role of IS
      b) Function of IS
      c) Services of IS
   7.6 Initiation for the Engineering Economy by Dr. Beshir
      Ditto a) -- d)
8. Forthcoming Schedule and Outputs of Economic Unit — By Dr. Aboutaleb
   a) Job Schedule
   b) Forthcoming Output
9. Introduction of Bulletin — By Dr. Beshir
   a) Aim of Issue
   b) Scope of Bulletin
   c) Information Source of Bulletin
   d) Evaluation Procedure
   e) Schedule of Issue
10. Bulletin — By Dr. Beshir
   1) Trend and Direction of Contents
   2) Arranged by field and Chronological

11. Reference
12. Your Request and Comment if Necessary

To the Manager of Economic Unit
Comments: Department Section Title Name Signature

4) Short Analysis Report

As one of the E.U.'s research outputs, the short analysis report was planned. This report was so designed as to appropriately notify results of all the analysis executed by the E.U., such as, analysis of the environment surrounding the Canal, analysis and forecast of traffic of the Canal, the structure of toll, etc.

All the groups of the E.U. started planning their job programs and preparing the short analysis reports at the end of October 1980.

SUBJECT TITLE	Useful relationships and parameters concering the vessels and cargo passing through the Suez Canal	SAG
PURPOSE	The following relationship which is required for the preparation of the model for forecasting traffic of the Canal and the revenue shall be determined from the actual traffic data: Relationship between SNT and DWT Relationship between G.T. and DWT Load factors	
CONTENTS:	1. Introduction 1.1 Objective 1.2 Summary 1.3 Conclusion 2. Methods 2.1 Analytical Method 2.2 Sampling 2.3 Regression Analysis 3. Result 3.1 SNT-DWT Equation 3.2 G.T.-DWT Equation 3.3 Cargo Tonnage-SNT Equation 4. Conclusion	
MAJOR RESULTS	1. SNT-DWT Equation 2. G.T.-DWT Equation 3. Cargo Tonnage-SNT Equation	
DATA SOURCE	1. Details of Ship Transit (Transit Report) 2. Lloyd's Shipping Index 3. SCA Report	
PERIOD	For the period of two month from Nov. 1, 1980 to December 31, 1980	

SHORT ANALYSIS REPORT

TITLE OF THE SUBJECT	The effect of Suez Canal tolls structure on its revenues	R E S	ERG
PURPOSE OF THE RESEARCH	The main purpose is to determine the expected change in the Suez Canal revenue in 1981 due to the change in tolls and the expected new users of the canal after 1st phase expantion.		
CONTENTS:	1. Historical evaluation of the Suez Canal tolls, to reflect the previous changes in Suez Canal tolls and currencies of levy. Also to show the necessity of the change in tolls structure. 2. The analysis of Suez Canal traffic, to show the change in traffic in relation with the change in tolls throw the years 1960–1966 and 1975–1980. 3. The Suez Canal revenues in 1979 and the expected changes in 1981 divided into three parts a – General cargo ships and unitized ship b – Bulk Carriers c – Tankers		
MAIN RESULTS	1. The Suez Canal tolls should be based on the cost saving approach. 2. The increase in SC revenues affected by both of tolls increase and Canal development.		
DATA & SOURCES	1. Suez Canal Report 2. Japanese Feasibility Study		
PERIOD OF RESEARCH	Nov. – Dec., 1980		

5) Preparation of Information System

As to the information system of the Economic Unit, it had been provided with information and data in the form of data handbook and information guide contained in the System Report I, II. With the starting of the technical cooperation program of the third year, the Economic Unit started preparing its own information system consisting of classification system, indexing system, retrieving system and filing system under the guidance of the JST. Conents of the systems are described in the Information Manual.

The works conducted by the Economic Unit are described as follows.

① Preparation of Filing System

Under the guidance of JST, the E.U. started preparing its own filing system covering organization, planning, control, research and information. And the details of this filing system are given in the information manual.

Above all, as to the information filing required for execution of the jobs of ERG and SAG, the both groups started to secure their resespective information files and to store AB/EX and other information and data in accordance with the classification codes

② Indexing

A task for preparation of indexing system, which enables accesses to various information and data stored according to the classification system mentioned in the previous paragraph, were carried out at the same time. The manual system employing index cards was considered appropriate for the time being, while it could be transferred to a computerized system easily.

③ Preparation of Thesaurus

As for thesaurus essential for preparation of the retrieving system, it is difficult to complete it in a short period of time. Therefore the Economic Unit started accumulating keywords by AB/EX in preparation for developing its own thesaurus for the future activities.

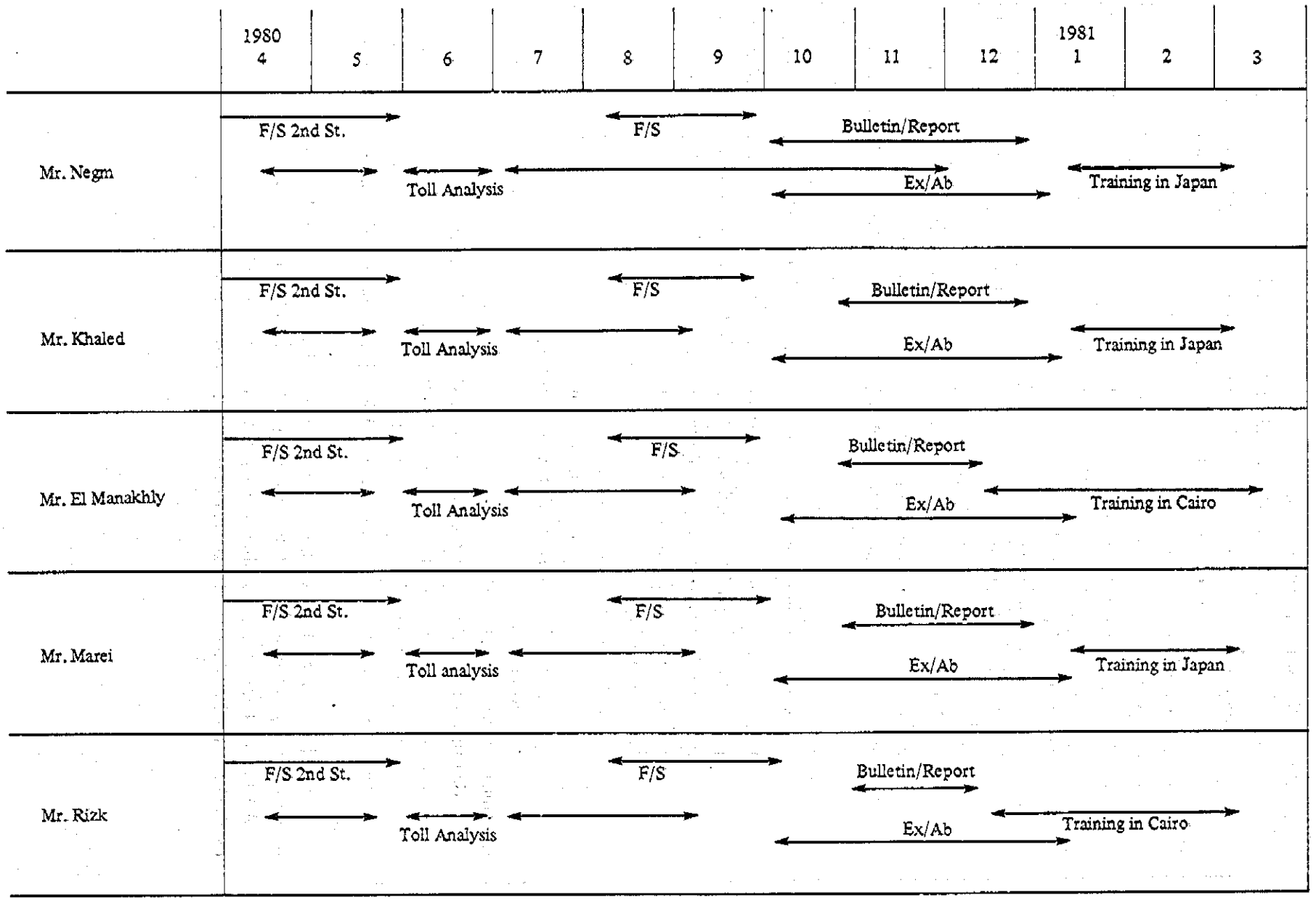
(3) January 1981 – March 1981

During this period, which was the final stage of the 3-year technical cooperation program, 7 staff members came to Japan for training and 4 staff members stayed in Egypt. Of the 4 staff members remained in Egypt 2 persons attended lectures on the planning and programming in Cairo. And 2 other staff members were engaged in self-training and the jobs of the Economic Unit.

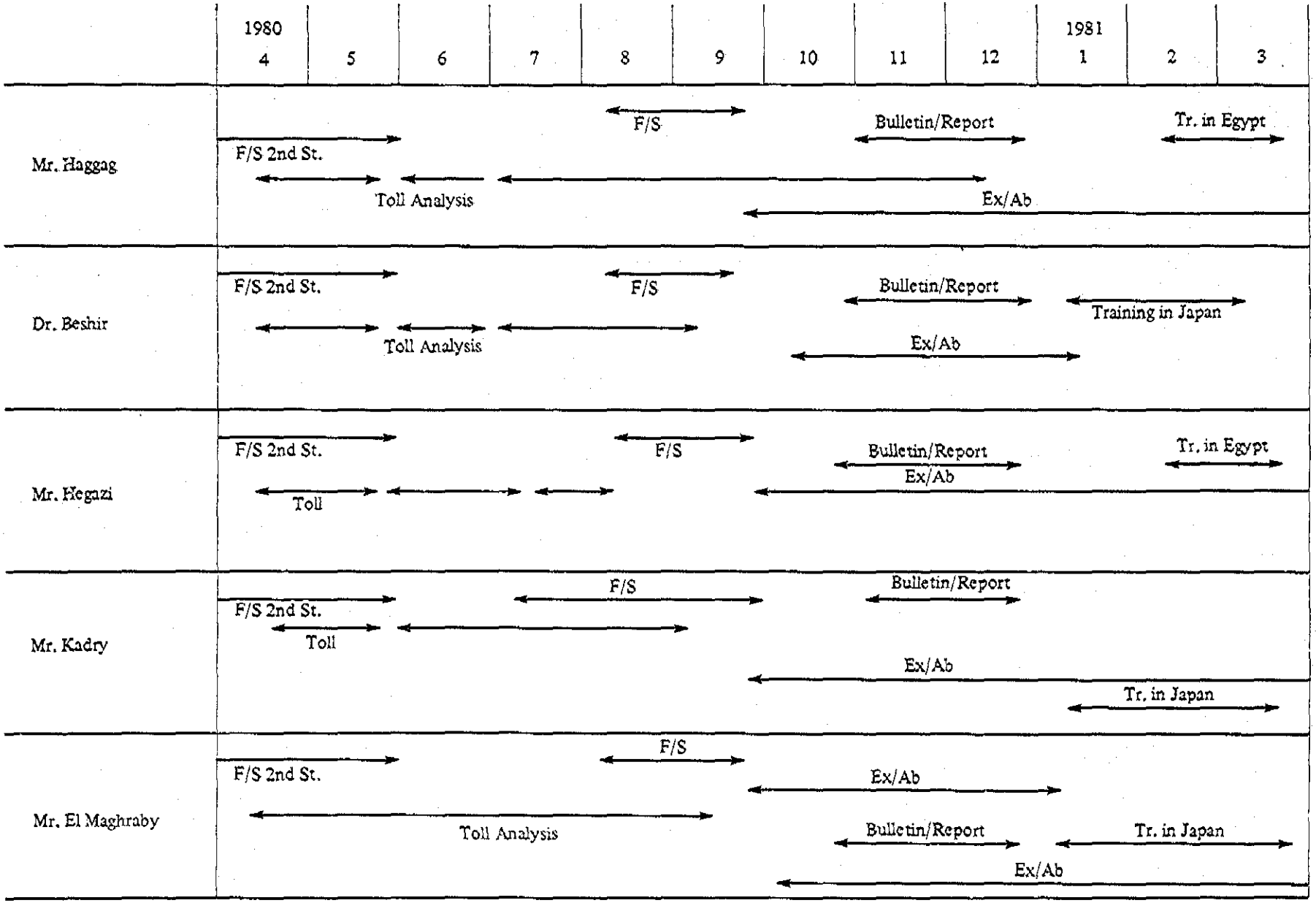
As the Japanese Survey Team stayed at SCA from February 18 to March 15, these 4 staff members staying in Egypt received the on-the-job training from the survey team.

All the staff members, including the 7 persons having returned from the training in Japan, received the final guidancy and instructions from JST for three days from March 14 to March 16.

ACTIVITIES OF SAG IN 1980



ACTIVITIES OF ERG IN 1980



APPENDIX

A Members of the Steering Committee

First Year (1978)	
Dr. Yoshimi Nagao Chairman	Professor, Faculty of Engineering, Kyoto University
Mr. Mitsumasa Iwata	Director, International Affairs Division Minister's Secretariat, Ministry of Transport
Mr. Sumio Shiota	Director, Overseas Division, Bureau of Shipping, Ministry of Transport
Mr. Shun-ichi Onodera	Director, Construction Division, Ports and Harbours Bureau Ministry of Transport
Mr. Fumiaki Nagatomo	Head, Shimonoseki Investigation and Design Office, The Fourth District Port Construction Bureau, Ministry of Transport
Mr. Yasuhide Okuyama	Chief, Systems Laboratory, Design Standard Division, Port and Harbour Research Institute, Ministry of Transport
Mr. Hisashi Mishima	Deputy-Director, Overseas Division, Bureau of Shipping Ministry of Transport
Mr. Satoshi Inoue	Deputy-Director, Planning Division, Bureau of Ports and Harbours Ministry of Transport
Second Year (1979)	
Dr. Yoshimi Nagao, Chairman	Professor, Faculty of Engineering, Kyoto University
Mr. Yoshiro Haraguchi	Managing Director, Hanshin Port Development Authority
Mr. Akira Otake	Special Assistant to the Director of the Division International Affairs Division, Minister's Secretariat, Ministry of Transport
Mr. Hiromichi Matsumoto	Deputy Director, Overseas Division, Bureau of Shipping, Ministry of Transport
Mr. Shuichi Soda	Deputy Director, Construction Division, Bureau of Ports and Harbours, Ministry of Transport
Mr. Yasuhide Okuyama	Chief, Systems Laboratory, Port and Harbour Research Institute Ministry of Transport
Mr. Michio Takahashi	Director, Planning Division, The Third Port Construction Bureau, Ministry of Transport

Third Year (1980)

Dr. Yoshimi Nagao, Chairman	Professor, Faculty of Engineering, Kyoto University
Mr. YOshiro Haraguchi	Managing Director, Hanshin Port Development Authority
Mr. Akira Otake	Special Assistant to the Director of the Division International Affairs Division, Minister's Secretariat Ministry of Transport
Mr. Hiromichi Matsumoto	Deputy Director, Overseas Division, Bureau of Shipping Ministry of Transport
Mr. Shuichi Soda	Deputy Director, Construction Division, Bureau of Ports and Harbours Ministry of Transport
Mr. Yasuhide Okuyama	Chief, Systems Laboratory, Port and Harbour Research Institute Ministry of Transport
Mr. Michio Takahashi	Deputy Director, Planning Division, Bureau of Ports and Harbours Ministry of Transport